BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

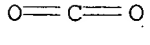
- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 08:36:17 ON 09 OCT 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:    7 OCT 2002  HIGHEST RN 459783-15-4
DICTIONARY FILE UPDATES:   7 OCT 2002  HIGHEST RN 459783-15-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d l1 ide can

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN   124-38-9  REGISTRY
CN   Carbon dioxide (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Carbon oxide (CO2)
CN   Carbon-12 dioxide
CN   Carbon-12C dioxide-16O2
CN   Carbonic acid anhydride
CN   Carbonic acid gas
CN   Carbonic anhydride
CN   Dry ice
CN   Khladon 744
CN   R 744
FS   3D CONCORD
DR   18923-20-1
MF   C O2
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
       CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU,
       DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
       ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
       IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*,
       SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

          143302 REFERENCES IN FILE CA (1962 TO DATE)
             591 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
```

143321 REFERENCES IN FILE CAPLUS (1962 TO DATE)
21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:225838

REFERENCE 2: 137:225576

REFERENCE 3: 137:225452

REFERENCE 4: 137:225122

REFERENCE 5: 137:225078

REFERENCE 6: 137:225068

REFERENCE 7: 137:225065

REFERENCE 8: 137:225044

REFERENCE 9: 137:225043

REFERENCE 10: 137:225024

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 08:36:22 ON 09 OCT 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 9 Oct 2002 VOL 137 ISS 15
FILE LAST UPDATED: 7 Oct 2002 (20021007/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot 145

L45 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:228143 HCAPLUS
DN 136:243985
TI Method and tool for detecting **fungus**
IN **Ogawa, Hiroyuki**
PA Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
IC ICM C12Q001-04
ICS **C12M001-34; G01N033-84**
CC **9-1** (Biochemical Methods)
Section cross-reference(s): **10**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002085090	A2	20020326	JP 2000-278941	20000913

AB A method and a tool are provided for detecting **fungus** within a short time by maintaining the high humidity suited for **fungus** proliferation and stimulating the formation of spores while preventing the contamination by floating spores. A liq.-holding material comprises a piece of tissue paper made of cellulose which is cut into a long and narrow piece. This liq.-holding material for absorbing and holding a liq. culture medium for **fungus** is accommodated in a container which can be sealed. A transparent sack possessing the **carbon dioxide** permeability and contg. a color indicator for **carbon dioxide** is accommodated in the sealed container. The container possesses a transparent part through which the transparent sack is seen from the outside. A diagram describing the tool assembly is given.
ST **fungus** detection tool **carbon dioxide** indicator
IT Bags
Cell proliferation
Colorimetric indicators
Containers
Culture media
Fungi
Humidity
Liquids
Permeability
Porifera
Spore
Tools
Transparent materials
(method and tool for detecting **fungus**)
IT Fibers
RL: DEV (Device component use); USES (Uses)
(method and tool for detecting **fungus**)
IT Paper
(tissue; method and tool for detecting **fungus**)
IT **124-38-9, Carbon dioxide**, analysis
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)
(method and tool for detecting **fungus**)
IT 9004-34-6, Cellulose, uses
RL: DEV (Device component use); USES (Uses)
(method and tool for detecting **fungus**)

L45 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:479263 HCAPLUS
DN 135:43452
TI Apparatus and culture media for determination of **microorganism** and method for **microorganism** determination
IN **Ogawa, Hiroyuki**
PA Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C12Q001-04

ICS **C12M001-34**; C12Q001-10; C12Q001-14; C12Q001-04; C12R001-445; C12R001-63; C12R001-19; C12R001-42
CC **10-6** (Microbial, Algal, and Fungal Biochemistry)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001178496	A2	20010703	JP 1999-368260	19991224

AB The app. contains liq. culture medium, and a **CO2**-indicating agent kept in a liq. barrier and **CO2**-permeable membrane. The **microorganism** of interest is introduced into the liq. medium contg. growth promoter for the **microorganism** of interest and growth inhibitor for other **microorganism**. Compared to the growth of the contaminated microoragsnim, the time required for the growth of the **microorganism** of interest and coloring (change) of the **CO2**-indicating agent is greatly shorten and it is used to calcd. the no. of the **microorganism** of interest and for diagnosis of the **microorganism** of interest. The method is not affected by contaminated **microorganism**.
ST **microorganism** counting app culture medium
IT Apparatus
Colorimetric indicators
Enterococcus
Escherichia coli
Gram-positive **bacteria** (Firmicutes)
Growth, microbial
Salmonella enteritidis
Salmonella typhimurium
Staphylococcus aureus
Staphylococcus epidermidis
Streptococcus
Vibrio parahaemolyticus
(app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)
IT Bile salts
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)
IT Analysis
(clin.; app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)
IT Culture media
(selective; app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)
IT **124-38-9**, **Carbon dioxide**, biological studies
RL: ANT (Analyte); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)
IT 56-40-6, Glycine, biological studies 69-65-8, Mannitol 127-17-3, Pyruvic acid, biological studies 143-74-8, Phenol red 389-08-2, Nalidixinic acid 548-62-9, Crystal violet 553-24-2, Neutral red 633-03-4, Brilliant green 1066-17-7, Colistin 7647-14-5, Sodium chloride, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(app. and culture media for detn. of **microorganism** and method for **microorganism** detn.)

L45 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **2000:897854** HCAPLUS
DN **134:50761**
TI Colorimetric or fluorometric sensors for yes/no evaluation of freshness of

foods
PA Hoegl, Ludwig, Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM **G01N033-02**
ICS B65D079-00
CC **79-2** (Inorganic Analytical Chemistry)
Section cross-reference(s): **17**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 10013992	A1	20001221	DE 2000-10013992	20000322
PRAI DE 1999-29905428	U1	19990323		

AB A sensor for the evaluation of freshness of a food (e.g., with a yes/no indicator) senses the detection of changes in concn., such as O2 consumption or increase in **CO2**. The indicators can be an org. or an inorg. color indicator. Alternatively, the freshness can be detected by an anal. system within the air-tight packaging room of the foodstuff, in which changes in O2 and/or **CO2** concns. can be detected by fluorescence anal.
ST food freshness indicator; oxygen consumption food freshness indicator; **carbon dioxide** food freshness indicator
IT **Colorimetric indicators**
Food analysis
Indicators
(**colorimetric** or fluorometric sensors for yes/no evaluation of freshness of foods)
IT Gas sensors
(oxygen, for concn. decrease; colorimetric or fluorometric sensors for yes/no evaluation of freshness of foods)
IT **124-38-9**, **Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(appearance of; colorimetric or fluorometric sensors for yes/no evaluation of freshness of foods)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(concn. decrease of; colorimetric or fluorometric sensors for yes/no evaluation of freshness of foods)

L45 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:420653** HCAPLUS
DN **131:70852**
TI Detection of **microorganisms** based on colorimetry of **carbon dioxide**, tool for the method, and apparatus equipped with the tool
IN **Ogawa, Hiroyuki**
PA Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C12Q001-04
ICS **C12M001-34; G01N021-77; G01N021-78**
CC **9-5** (Biochemical Methods)
Section cross-reference(s): **10**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11178597	A2	19990706	JP 1997-365342	19971218 <--
JP 3225484	B2	20011105		
EP 930368	A2	19990721	EP 1998-310484	19981218 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
US 2001039033 A1 20011108 US 2001-897105 20010703 <--
PRAI JP 1997-365342 A 19971218 <--
US 1998-213872 A3 19981217 <--

AB **Microorganisms** are detected by adding a sample in a container in which a liq. culture medium and a color indicator for **CO2** are placed sep. via a **CO2**-permeable membrane and sealing the container to measure whether the indicator is colored or not. No. of **microorganisms** is measured based on the time from the point when the container is sealed to the point the coloration of the indicator reaches a certain value. A tool for detg. **microorganisms** comprises a sealable container having a part for a liq. culture medium and another part for a **CO2** indicator, e.g. NaOH and thymolphthalein, via a **CO2**-permeable membrane, e.g. a polypropylene film, and the container has a transparent part through which coloration of the indicator can be viewed. Also claimed is app. comprising the tool, a color sensor, and an alarm.

ST **microorganism** detection **carbon dioxide** detn color indicator

IT **Colorimetric indicators**
Microorganism
Respiration, microbial
(detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

IT 1305-62-0, Calcium hydroxide, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**carbon dioxide** detection based on calcium carbonate formation with; detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

IT 125-20-2, Thymolphthalein
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**carbon dioxide** detection with sodium hydroxide and; detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

IT 1310-73-2, Sodium hydroxide, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**carbon dioxide** detection with thymolphthalein and; detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

IT 9003-07-0, Polypropylene
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(**carbon dioxide**-permeable film; detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

IT **124-38-9, Carbon dioxide**, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); MFM (Metabolic formation); ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative)
(detection of **microorganisms** by tool comprising a sealable container having liq. culture media and color indicator for **CO2**)

L45 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:265695** HCAPLUS
DN **130:286447**
TI A method and an apparatus for appraising the biodegradability of organic compound by **microorganism**.

IN Uematsu, Shogo
PA Yahata Bussan K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C12Q001-02
ICS **C12M001-34**
CC 60-6 (Waste Treatment and Disposal)
Section cross-reference(s): 4, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11113595	A2	19990427	JP 1997-293597	19971009 <--
	US 6143515	A	20001107	US 1998-166724	19981005 <--
PRAI	JP 1997-293597	A	19971009 <--		

AB A simple and accurate method is described for objectively appraising the biodegradability of org. compd. by **microorganism**. An org. compd. to be tested is accommodated with a certain source material of **microorganism** in a reaction cylinder constantly maintained at a fixed temp. The org. compd. is degraded by the **microorganism** in the source material upon passing the satd. steam without **carbon dioxide** through the reaction cylinder. The wt. of **carbon dioxide** generated by the degrdn. of the org. compd. is measured. Similarly, cellulose is degraded as an appraisal std. and the wt. of **carbon dioxide** generated is measured. The biodegradability of the org. compd. is appraised by comparing these two measured values. A simple and inexpensive app. for this method can be used for a long period consistently. Applications of this method and app. to appraising the biodegradability of polychlorinated biphenyl derivs. and polymers are shown.

ST biodegradability polymer PCB **carbon dioxide** **microorganism**

IT Sand
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(beach; method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT Polymers, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(biodegradable; method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT Apparatus
Biodegradable materials
Bioreactors
Compost
Microorganism
(method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT Organic compounds, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT Steam
(satd.; method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT **124-38-9, Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT 92-52-4D, Biphenyl, chloro derivs. 300-85-6D, derivs. 9004-34-6,

Cellulose, biological studies 9005-25-8D, Starch, derivs., biological studies 26247-20-1, Polybutylenesuccinate
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(method and app. for appraising biodegradability of org. compd. by **microorganism**)

IT 8006-28-8, Soda lime 10031-30-8, Calcium superphosphate
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(method and app. for appraising biodegradability of org. compd. by **microorganism**)

L45 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:12226** HCAPLUS
DN **130:67591**
TI Multi-layered storage container
IN Guttag, Alvin
PA USA
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM **G01N021-00**
ICS B32B027-00
NCL 428035700
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 20, **79**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5851611	A	19981222	US 1995-462031	19950605

AB One aspect of the present invention reveals a multi-layered storage container that changes color in response to acid gases. The storage container is comprised of at least one layer of a plastic and at least one layer of a gas-barrier polymer. Furthermore, the multi-layered storage container is provided with a color-changing indicator to show the presence of acidic gases. Multilayered storage containers that indicate the presence of acid gases (e.g., **carbon dioxide**, hydrogen chloride, sulfur dioxide and sulfur trioxide) by color changes are described which comprise .gtoreq.1 layer of a gas-porous plastic selected from the group consisting of a hydrocarbon polymer of a C2-6 monoolefin, ethylene-mono-olefin copolymers, linear polyesters, polycarbonates, and polystyrene; .gtoreq.1 layer of a gas-barrier polymer which can decomp. to form an acid gas, wherein the innermost layer of the multilayer storage container is made of the gas-porous plastic, and wherein .gtoreq.1 layer of the multilayer storage container is provided with a color-changing indicator which changes color to show the presence of the acid gas formed by the decompn. of the gas-barrier polymer. The containers may be used in storing philatelic items, photographs, or museum pieces. A discussion is also given of a diaper which, as the result of chem. and/or elec. processes, can indicate when the diaper is wet.

ST acid gas indicating multilayered storage container

IT Acid-base indicators
Containers
(acid gas-indicating multilayered storage containers)

IT Polycarbonates, uses
Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(acid gas-indicating multilayered storage containers)

IT Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(linear; acid gas-indicating multilayered storage containers)

IT Acid-base indicators

Acid-base indicators
Colorimetric indicators
Colorimetric indicators
(litmus; acid gas-indicating multilayered storage containers)
IT Diapers
(wetness-indicating)
IT 76-59-5, Bromthymol blue 547-58-0, Methyl orange 2800-80-8, Bromphenol red
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(acid gas-indicating multilayered storage containers)
IT 9002-85-1, Polyvinylidene chloride 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-22-9, Vinyl chloride-vinyl acetate copolymer 9003-53-6, Polystyrene 9010-76-8, Vinylidene chloride-acrylonitrile copolymer 9011-06-7, Vinylidene chloride-vinyl chloride copolymer 9078-70-0 25038-59-9, Polyethylene terephthalate, uses
RL: DEV (Device component use); USES (Uses)
(acid gas-indicating multilayered storage containers)
IT **124-38-9P, Carbon dioxide,** analysis
7446-09-5P, Sulfur dioxide, analysis 7446-11-9P, Sulfur trioxide, analysis 7647-01-0P, Hydrogen chloride, analysis
RL: ANT (Analyte); BYP (Byproduct); ANST (Analytical study); PREP (Preparation)
(acid gas-indicating multilayered storage containers capable of detecting)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Guttag; US 3579624 1971 HCAPLUS
(2) Guttag; US 4952426 1990
(3) Guttag; US 5120089 1992
(4) Halpern; US 4098577 1978
(5) Versic; US 5234732 1993

L45 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:799727 HCAPLUS
DN 130:85541
TI Apparatus for evaluating the biodegradation of organic matter in wastes
IN Matsui, Masami
PA Shimadzu Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C12M001-00**
ICS B09B003-00; C12Q001-02; **G01N033-00; G01N033-24**
CC 60-6 (Waste Treatment and Disposal)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10327841	A2	19981215	JP 1997-139944	19970529 <--
JP 3204162	B2	20010904		

AB The app. comprises means for mixing biodegradable plastic wastes with activated sludge contg. **bacteria** (e.g., Streptomyces or Micrococcus) and nutrients in a bioreactor to decomp. org. matter, means for monitoring the amt. of formed gas components (except **CO2**) and ion-contg. soln. from the bioreactor, and means for evaluating the aerobic biodegrdn. rate based on feedback signal from the monitors.
ST plastic waste biodegrdn evaluation org matter
IT Micrococcus
Streptomyces
(app. for evaluating the biodegrdn. of org. matter in wastes)
IT Waste plastics

(biodegradable; app. for evaluating the biodegrdn. of org. matter in wastes)
IT 7664-41-7, Ammonia, analysis
RL: ANT (Analyte); ANST (Analytical study)
(app. for evaluating the biodegrdn. of org. matter in wastes)

L45 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:640510 HCAPLUS
DN 129:242198
TI Biosensor consisting of a membrane-coated transducer and an immobilized biological component
IN Schueler, Rainer; Wittkampf, Michael; Chemnitius, Gabriele Christine; Sperveslage, Gabriele; Grobe, Joseph
PA Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM **G01N027-327**
ICS **C12M001-40**; C12Q001-00
CC 9-1 (Biochemical Methods)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19711879	A1	19980924	DE 1997-19711879	19970321 <--

AB The invention concerns the prepn. and application of a biosensor consisting of a membrane coated transducer and an immobilized enzyme for the measurement of biol. substances or gases. The formation of the membrane and its modification is carried out in one step; the gas permeable membrane is a multicomponent silicon rubber with alkoxysilane functional groups. Enzymes or **microorganisms** can be immobilized, e.g. oxygenases, hydrolases etc. Transducers are electrochem. or optical type. Thus polydimethylsiloxane was dissolved in n-hexane along with 3-aminopropyl-1-triethoxysilane and a crosslinker. Cuprophan dialysis membrane was stretched onto a glass bulb, the procedure was carried out under water; after drying it was dipped into the siloxane soln. Glucose oxidase was immobilized using glutaraldehyde soln.; the sensor was used for glucose measurement. Similarly a biosensor was prepd. using 9,10 epoxydecyl-1-triethoxysilane as functionalization compd.
ST biosensor membrane coated transducer immobilized enzyme
IT Silanes
RL: DEV (Device component use); USES (Uses)
(alkoxy; biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Biosensors
Immobilization, biochemical
Microorganism
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Polysiloxanes, uses
Silicone rubber, uses
RL: DEV (Device component use); USES (Uses)
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Membranes, nonbiological
(cellophane; biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Biosensors
(enzymic; biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Permeability
(gas, membrane; biosensor consisting of a membrane-coated transducer and immobilized biol. component)

IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immobilized; biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT Cellophane
(membrane; biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT 50-99-7, D-Glucose, analysis **124-38-9, Carbon dioxide**, analysis 7664-41-7, Ammonia, analysis 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT 9027-41-2, Hydrolase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT 111-30-8, Glutaraldehyde
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)
IT 110-54-3, n-Hexane, uses 919-30-2 7440-21-3, Silicon, uses 9001-37-0, Glucose oxidase 9016-00-6, Di-Me siloxane, SRU 9031-55-4, Carboxylase 31900-57-9, Dimethylsilanediol homopolymer 35567-31-8
RL: DEV (Device component use); USES (Uses)
(biosensor consisting of a membrane-coated transducer and immobilized biol. component)

L45 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1998:613480** HCAPLUS
DN **129:242188**
TI Apparatus and method for anaerobic respirometry
IN Hunter, Robert M.; Stewart, Frank M.
PA Yellowstone Environmental Science, USA
SO U.S., 42 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-02
ICS **C12M001-34**
NCL 435029000
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 61
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5811255	A	19980922	US 1995-530539	19950920 <--

AB An app. and method for anaerobic and aerobic respirometry. The app. and method provide for automatically collecting and analyzing the data required to calibrate math. models for bioprocesses that involve anaerobic respiration, aerobic respiration and dehalogenation. Dissolved electron-acceptor concns. and/or product concns. and/or headspace pressures are automatically monitored during the progress of a biotransformation occurring in a batch reactor to produce a data set. The data set is analyzed to derive intrinsic kinetic parameters and stoichiometric coeffs. The cultures biocatalyzing the oxidn.-redn. reactions of interest may be aerobic, denitrifying (e.g., nitrate-reducing), sulfate reducing and/or methanogenic. The models thus developed may be used for design of wastewater treatment or bioremediation processes.
ST app anaerobic respirometry
IT Electrodes
(Oxidn.-redn. potential; app. and method for anaerobic respirometry)

IT **Respiration, microbial**
(anaerobic and aerobic; app. and method for anaerobic respirometry)
IT Animal tissue culture
Apparatus
Computers
Ion chromatographs
Ion-selective electrodes
Metabolism
Microorganism
Simulation and Modeling, physicochemical
Wastewater treatment
pH electrodes
(app. and method for anaerobic respirometry)
IT Reactors
(batch; app. and method for anaerobic respirometry)
IT Dehalogenation
(biol.; app. and method for anaerobic respirometry)
IT Remediation
(bioremediation; app. and method for anaerobic respirometry)
IT 14808-79-8, Sulfate, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(app. and method for anaerobic respirometry)
IT 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methanol, biological studies 74-89-5, Methylamine, biological studies 75-50-3, Trimethylamine, biological studies **124-38-9**, **Carbon dioxide**, biological studies 124-40-3, Dimethylamine, biological studies 630-08-0, Carbon monoxide, biological studies 7439-89-6, Iron, biological studies 10024-97-2, Nitrous oxide, biological studies 10102-43-9, Nitric oxide, biological studies 14797-55-8, Nitrate, biological studies 14797-65-0, Nitrite, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(app. and method for anaerobic respirometry)

L45 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1997:234521** HCAPLUS
DN **126:248561**
TI Automated, multicompartmental cell culture system
IN Shuler, Michael L.; Babish, John G.; Sweeney, Lisa M.; Johnson, Brian E.
PA Cornell Research Foundation, Inc., USA
SO U.S., 44 pp., Cont. of U.S. Ser. No. 66,823, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-00
ICS **C12M001-34**
NCL 435029000
CC 9-1 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5612188	A	19970318	US 1994-194792	19940210 <--
PRAI	US 1991-797311		19911125 <--		
	US 1991-799044		19911126 <--		
	US 1993-66823		19930524 <--		

AB The present invention relates to an in vitro system for physiol. and metabolic evaluation of substances for use in living beings. The system includes one or more cell culture chambers, each contg. cells in a culture medium and a gas-liq. exchange device for contacting the culture medium with oxygen-contg. gas so that the culture medium absorbs that gas and desorbs **carbon dioxide**-contg. gas. The conduit system

conducts culture medium between the gas-liq. exchange device and the cell culture chambers. A circulation mechanism is used to circulate culture medium through the conduit system, the cell culture chambers, and the gas-liq. exchange device. In use, the substance to be evaluated is added to the culture medium of the system and circulated through the system. The cells in each of the cell culture chambers are then evaluated for effects resulting from the presence of the substance.

ST automated multicompartmental cell culture system

IT Lung
(Clara cell; automated multicompartmental cell culture system)

IT Animal tissue culture
(app.; automated multicompartmental cell culture system)

IT Apparatus
Lung
(automated multicompartmental cell culture system)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(automated multicompartmental cell culture system)

IT Macrophage
(lung; automated multicompartmental cell culture system)

IT Lung
(type II cell; automated multicompartmental cell culture system)

L45 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2002 ACS

AN **1996:588758** HCAPLUS

DN **125:237085**

TI A colorimetric device for indicating **carbon dioxide**

IN Larsson, Anders; Oestberg, Gunilla; Krill, Paul; Gedeon, Andras

PA Icor Ab, Swed.

SO PCT Int. Appl., 14 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM **G01N031-22**

CC **79-2** (Inorganic Analytical Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9624054	A1	19960808	WO 1995-SE1363	19951116
	W: AU, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	SE 9500400	A	19960804	SE 1995-400	19950203
	SE 504069	C2	19961028		
	AU 9643579	A1	19960821	AU 1996-43579	19951116
	AU 695069	B2	19980806		
	EP 807250	A1	19971119	EP 1995-942328	19951116
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, IE				
	JP 10513264	T2	19981215	JP 1995-523451	19951116
PRAI	SE 1995-400		19950203		
	WO 1995-SE1363		19951116		

AB A colorimetric device for indicating **carbon dioxide** is disclosed, which device contains; (a) at least one pH-sensitive indicator dye, (b) at least one basic substance selected from the group consisting of quaternary ammonium salts, phosphonium salts and sulfonium salts, and (c) at least one member selected from the group consisting of water-insol., org. substances of low volatility, which are not susceptible to alk. hydrolysis and are liq. at room temp. or moderately elevated temps.

ST colorimetric device **carbon dioxide**; colorimeter
carbon dioxide

IT **Colorimeters**
(**carbon dioxide** detection with colorimeter contg.
pH indicator and base and polyether)

IT Alcohols, analysis
Phenols, analysis
Phosphonium compounds
Polyethers, analysis
Quaternary ammonium compounds, analysis
Sulfonium compounds
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(**carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

IT Indicators
(acid-base, **carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

IT Alcohols, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(alkoxylated, **carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

IT Polyoxyalkylenes, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(alkyl group-terminated, **carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

IT **124-38-9, Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(**carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

IT 9004-34-6, Cellulose, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(porous gas permeable carrier; **carbon dioxide** detection with colorimeter contg. pH indicator and base and polyether)

L45 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1996:580418** HCAPLUS
DN **125:211397**
TI Method of increasing the shelf life of a colorimetric device for indicating **carbon dioxide** and package containing such device
IN Larsson, Anders; Oestberg, Gunilla; Krill, Paul; Gedeon, Andras
PA Icor Ab, Swed.
SO PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM **G01N031-22**
CC **79-2** (Inorganic Analytical Chemistry)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9624055	A1	19960808	WO 1995-SE1364	19951116
	W: AU, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	SE 9500401	A	19960804	SE 1995-401	19950203
	SE 504068	C2	19961028		
	AU 9643580	A1	19960821	AU 1996-43580	19951116
	AU 699736	B2	19981210		
	EP 807251	A1	19971119	EP 1995-942329	19951116
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, IE				
	JP 10513554	T2	19981222	JP 1995-523452	19951116
	US 5965061	A	19991012	US 1996-594059	19960130
PRAI	SE 1995-401		19950203		
	WO 1995-SE1364		19951116		

AB A method of increasing the self life of a reversible colorimetric device for indicating **carbon dioxide** is disclosed, which method comprises placing said device together with at least one non-toxic pH-lowering gas in a gas-tight wrapping or casing. A package is also disclosed which is prepd. by said method. The invention also relates to the use of a non-toxic pH-lowering gas for increasing the self life of a device of the above-mentioned type.

ST shelf life colorimetric device **carbon dioxide**; package colorimetric device **carbon dioxide** detn

IT **Colorimeters**
(method of increasing shelf life of colorimetric device for indicating **carbon dioxide** and package contg. such device)

IT Packaging materials
(gas-impermeable, method of increasing shelf life of colorimetric device for indicating **carbon dioxide** and package contg. such device)

IT **124-38-9**, **Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(method of increasing shelf life of colorimetric device for indicating **carbon dioxide** and package contg. such device)

L45 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:438042 HCAPLUS
DN 125:103766
TI Device for measuring the partial pressure of gases dissolved in liquids
IN Dieckmann, Michael; Buchholz, Rainer
PA Euroferm Gmbh I.Gr., Germany
SO Ger. Offen., 7 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM **G01N021-61**
ICS **C12M001-36**; C12Q003-00; C12C011-00; C02F003-00
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 16, 60, 61
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	DE 4445668	A1	19960627	DE 1994-4445668	19941221	<--
	DE 4445668	C2	19970515			
	WO 9619723	A2	19960627	WO 1995-EP5050	19951220	<--
	WO 9619723	A3	19960822			
	W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, UZ, VN					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	AU 9643881	A1	19960710	AU 1996-43881	19951220	<--
	AU 695408	B2	19980813			
	EP 871865	A2	19981021	EP 1995-942708	19951220	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE					
	JP 10512668	T2	19981202	JP 1995-519507	19951220	<--
	DE 19624844	A1	19980102	DE 1996-19624844	19960621	<--
	DE 19624844	C2	19991216			
	US 6003362	A	19991221	US 1997-878920	19970619	<--
PRAI	DE 1994-4445668	A	19941221	<--		
	US 1995-561910	B2	19951122	<--		
	WO 1995-EP5050	W	19951220	<--		
	DE 1996-19624844	A	19960621	<--		

AB An app. for measuring the partial pressure of gases (e.g. **CO2** or O2) dissolved in liqs. consists of a measuring chamber, which uses a PTFE membrane permeable to the gas to be detd. to divide up the chamber to form a sample chamber contg. the liq. with the dissolved gas to be detd. A light-emitting source is provided for producing a light beam with a

wavelength absorbed by the gas to be detd. while passing it through the sample. Addnl. a measuring device is also provided to det. the light leaving the measuring chamber. Applications of this device include measurement, monitoring and regulation of fermn. processes, liquor prodn., and wastewater purifn. processes.

ST partial pressure gas dissolved liq; **carbon dioxide** partial pressure liq; oxygen partial pressure liq; wastewater purifn fermn **carbon dioxide** detn

IT Fermentation
(partial pressure measurement of **CO2** dissolved in liqs. by using PTFE membrane in divided sample chamber for fermn. processes)

IT Gas analysis
(partial pressure measurement of gases dissolved in liqs.)

IT Wastewater treatment
(partial pressure measurement of gases dissolved in liqs. by using PTFE membrane in divided sample chamber for wastewater purifn. processes)

IT Membranes
(partial pressure measurement of gases dissolved in liqs. by using membrane in divided sample chamber)

IT **124-38-9**, **Carbon dioxide**, analysis
7782-44-7, Oxygen, analysis
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(device for measuring the partial pressure of gases dissolved in liqs.)

IT 9002-84-0, PTFE
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(partial pressure measurement of gases dissolved in liqs. by using PTFE membrane in divided sample chamber)

L45 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1996:110465** HCAPLUS
DN **124:140392**
TI Oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity
IN Peck, Ammon B.
PA University of Florida Research Foundation, Inc., USA
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-31
ICS C12N015-54; A61K038-43; A61K038-54
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 4, 7, 10
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9535377	A2	19951228	WO 1995-US7844	19950620	<--
	WO 9535377	A3	19960425			
	W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, UZ, VN					
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	US 5604111	A	19970218	US 1994-262424	19940620	<--
	CA 2193674	AA	19951228	CA 1995-2193674	19950620	<--
	AU 9529055	A1	19960115	AU 1995-29055	19950620	<--
	AU 710652	B2	19990923			
	EP 802978	A2	19971029	EP 1995-924624	19950620	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE					
	JP 10501973	T2	19980224	JP 1995-502576	19950620	<--
	US 2001011130	A1	20010802	US 2001-756061	20010108	<--

PRAI US 1994-262424 A 19940620 <--
US 1995-464147 B1 19950605 <--
WO 1995-US7844 W 19950620 <--
US 1997-841174 A1 19970429 <--

AB The subject invention concerns the novel use of formyl-CoA transferase enzyme together with oxalyl-CoA decarboxylase enzyme for the detection and measurement of oxalate in biol. samples. The use of enzyme system according to the subject invention results in the conversion of oxalate into **carbon dioxide** and formate. Because the prodn. of formate is directly correlated to the concn. of oxalate present in a sample, the detn. of the resulting formate concn. provides an accurate, sensitive and rapid means for detecting even low levels of oxalate. The subject invention further concerns the cloning, sequencing and expression of the genes that encode the formyl-CoA transferase enzyme and the oxalyl-CoA decarboxylase enzyme of Oxalobacter formigenes. The subject invention also concerns a method for detecting the presence of Oxalobacter formigenes organisms in a sample, and the polynucleotide probes and primers used in the detection method.

ST oxalate detn oxalyl CoA decarboxylase Oxalobacter; Oxalobacter oxalyl CoA decarboxylase gene sequence

IT **Colorimetry**
Nucleic acid hybridization
Oxalobacter formigenes
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT Gene, microbial
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 173447-57-9 173453-09-3
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 173453-06-0 173453-07-1 173453-08-2
RL: PRP (Properties)
(nucleotide sequence of; oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 144-62-7, Oxalic acid, analysis
RL: ADV (Adverse effect, including toxicity); ANT (Analyte); ANST (Analytical study); BIOL (Biological study)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 173452-58-9P
RL: ANT (Analyte); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 173452-59-0
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 64-18-6, Formic acid, analysis
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 53-84-9, .beta.-NAD 5060-54-8, Oxalyl-Coenzyme A 9024-96-8, Oxalyl coenzyme A decarboxylase 9028-85-7, Formate dehydrogenase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 128826-27-7P, Formyl-CoA-oxalate CoA-transferase
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT **124-38-9, Carbon dioxide**, miscellaneous
RL: MSC (Miscellaneous)
(oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

IT 173455-04-4 173455-05-5 173455-06-6 173455-07-7
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(oxalyl-CoA decarboxylase probe; oxalate detection using formyl-CoA transferase and oxalyl-CoA decarboxylase system and use for treatment of human in oxalate toxicity)

L45 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1995:354532** HCAPLUS
DN **122:128058**
TI Gas testing device, especially for respiratory air
IN Bauer, Heinz
PA Bauer Kompressoren G.m.b.H., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM **G01N031-22**
ICS **G01N021-77; G01N033-497**
CC 9-1 (Biochemical Methods)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4324679	A1	19950126	DE 1993-4324679	19930722 <--

AB A device for measuring the quality of a gas, e.g. the CO, **CO2**, and H2O contents of respiratory air, comprises a card resembling a plastic credit card which bears a magnetic strip or other data storage device and a row of reagent tablets which change color on exposure to the gas in accordance with the contents of the test components. Exposure to the gas occurs in a manifold constructed similarly to a credit card reader, in which injected gas is sepd. into streams directed onto each tablet. Comparison color strips, showing acceptable and unacceptable colors for each tablet (component), are also printed on the card. The card may also be inserted into a reader for quant. evaluation of the colors and recording of the results on the magnetic strip or other data storage device.

ST carbon monoxide dioxide detn breath app; water detn breath app
IT Gas analysis
(app.; gas testing device, esp. for respiratory air)
IT Air, respiratory
Colorimeters
(gas testing device, esp. for respiratory air)
IT Cards
(plastic; gas testing device, esp. for respiratory air)
IT Laboratory ware
(manifolds, gas testing device, esp. for respiratory air)
IT **124-38-9, Carbon dioxide**, analysis 630-08-0, Carbon monoxide, analysis
RL: ANT (Analyte); ANST (Analytical study)
(gas testing device, esp. for respiratory air)
IT 7732-18-5, Water, analysis
RL: ANT (Analyte); ANST (Analytical study)
(vapor; gas testing device, esp. for respiratory air)

L45 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:600384 HCAPLUS
DN 121:200384
TI Asymmetric membrane sensor
IN Willis, John P.; Pivato, Rayvenne L.
PA Radiometer Medical A/S, Den.
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM **G01N033-52**
ICS C12Q001-54; **C12M001-40**
CC 9-1 (Biochemical Methods)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9418559	A1	19940818	WO 1994-DK58	19940209 <--

W: JP
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRAI US 1993-16524 19930211 <--
AB The invention relates to an asym. membrane having a chromogen indicator coating located downstream of and adjacent to the downstream (smaller porosity) side of the asym. membrane. Bleed-through is not a problem and precise measurement of various blood parameters is thereby achieved. The sensor may be used for measurement of a variety of analytes, including glucose, lactate, creatinine, urea (BUN), uric acid, pyruvic acid, ascorbic acid and cholesterol. Addnl., the invention relates to disposable cassettes employing the sensor and anal. systems employing same. The invention further relates to techniques for constructing and operating the sensor. Views of the membrane and sensor are shown. An asym. polysulfone membrane having a pore size gradient for sepn. of plasma from whole blood was spray-coated on the down stream side of the membrane with buffer soln. contg. TMB, horseradish peroxidase and glucose oxidase and dried. Disks were punched and placed in a cassette device for glucose detn. in whole blood.
ST asym membrane sensor
IT Pharmaceuticals
(analyte metabolites of; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)
IT Anions
Cations
Virus
(analyte; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)
IT Albumins, analysis

Amino acids, analysis
Antibodies
Antigens
Enzymes
Glycerides, analysis
Hemoglobins
Proteins, analysis
RL: ANT (Analyte); ANST (Analytical study)
(analyte; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Blood analysis
(glucose sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side for)

IT Indicators
Porosity
Sensors
(sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Gas analysis
Pharmaceutical analysis
(with sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Analysis
(app., test cell; contg. sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Membranes
(asym., sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Lipoproteins
RL: ANT (Analyte); ANST (Analytical study)
(high-d., analyte; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT **Virus**, animal
(human immunodeficiency, analyte antibodies to; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT Lipoproteins
RL: ANT (Analyte); ANST (Analytical study)
(low-d., analyte; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT 50-21-5, analysis 50-81-7, Ascorbic acid, analysis 50-99-7, Glucose, analysis 57-13-6, Urea, analysis 57-88-5, Cholesterol, analysis 60-18-4, Tyrosine, analysis 60-27-5, Creatinine 63-91-2, Phenylalanine, analysis 64-17-5, Ethanol, analysis 69-93-2, Uric acid, analysis 71-52-3, Bicarbonate **124-38-9**, **Carbon dioxide**, analysis 635-65-4, analysis 1333-74-0, Hydrogen, analysis 7439-93-2, Lithium, analysis 7439-95-4, Magnesium, analysis 7440-09-7, Potassium, analysis 7440-23-5, Sodium, analysis 7440-70-2, Calcium, analysis 7782-44-7, Oxygen, analysis 7782-50-5, Chlorine, analysis 9000-92-4, Amylase 9001-15-4, Creatine kinase 9046-27-9, .gamma.-Glutamyl transferase 14265-44-2, Phosphate, analysis 14798-03-9, Ammonium, analysis
RL: ANT (Analyte); ANST (Analytical study)
(analyte; sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

IT 9001-37-0, Glucose oxidase 9003-99-0, Peroxidase 54827-17-7
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(reagent coating; glucose sensor contg. asym. membrane having porosity gradient and coated with indicator on downstream side)

L45 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1994:477746** HCAPLUS

DN **121:77746**
TI Fiber-optic probe for the measurement of fluid parameters
IN Singh, Raghuvir
PA Optex Biomedical, Inc., USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM **G01N021-64**
ICS **G01N021-77**; A61B005-00
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 73, 79
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9410553	A1	19940511	WO 1993-EP2772	19931007 <--

W: CA, JP
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRAI US 1992-965193 19921023 <--

AB An optical probe for colorimetric measurement is provided which includes a body having a tip and one or more sensors. Each sensor is defined by an optical fiber in the body having a small slice extd. from it at a point along its length at a location adjacent to the tip so as to form an optical gap, at least one chamber opening to the surface of the body and extending into the interior of the body so as to expose the faces of the optical fiber at the optical gap, colorimetric sensor material in the chamber, and analyte-permeable membrane means applied to the body so as to cover the opening to the chamber. The colorimetric sensor material comprises a water sol. indicator covalently bonded to solid support material or overcoated or encapsulated with a water-insol. coating or fluid. The sensors may be for pH, pCO2, and/or pO2. An oxygen sensor material based on Ru (1,10-phenanthroline) chloride is applied as a paste made by mixing a dyed lichrosphere powder with an uncured elastomer. Methods for prepg. a pH sensor material and a **carbon dioxide** sensor material involve hydroxyethyl cellulose. A permeable membrane derived from cellulose acetate, an anti-thrombogenic coating and calibration soln. are also described. Diagrams of the probe are shown.

ST fiber optic sensor blood colorimetry; oxygen fiber optic probe; **carbon dioxide** fiber optic probe; pH fiber optic probe

IT Membranes
(analyte-permeable, covering chamber opening to optical fiber)

IT Blood analysis
(**carbon dioxide** and oxygen and pH detn. in, fiber optic probe for)

IT pH
(detn. of, with optical probe having indicator in gap in optical fiber)

IT Blood vessel
(fiber optic probe fitting in)

IT Gas analysis
(fiber optic probe for)

IT Optical fibers
(having colorimetric sensor material in gap, for optical probe for colorimetric measurement)

IT Antioxidants
(in **carbon dioxide** optical fiber sensor)

IT Indicators
(in gap in optical fiber of optical probe)

IT Glass, oxide
Silica gel, uses
RL: ANST (Analytical study)
(indicator bonded to, in optical probe for oxygen detection)

IT Anticoagulants and Antithrombotics

(on optical fiber sensor)
IT **Colorimetry**
(optical fiber sensors in probe for)
IT Coordination compounds
RL: ANST (Analytical study)
(oxygen-sensitive fluorescent, in gap in optical fiber of optical probe for oxygen detection)
IT Siloxanes and Silicones, uses
RL: USES (Uses)
(vulcanizing, support with immobilized indicator coated with, in optical probe for oxygen detection)
IT Polymers, uses
RL: USES (Uses)
(water-repellent, support with immobilized indicator coated with, in optical probe for oxygen detection)
IT Indicators
(acid-base, in gap in optical fiber of pH optical sensor)
IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkylbenzyldimethyl, chlorides, heparin complexes; in prepn. of antithrombogenic coating on fiber optic sensor probe)
IT Sensors
(fiber-optic, having colorimetric sensor material in gap in optical fiber)
IT Dyes
(fluorescent, in gap in optical fiber of optical probe for **carbon dioxide** detn.)
IT Gels
(hydro-, in pH optical fiber sensor)
IT Needles
(hypodermic, fiber optic probe fitting in)
IT 66-71-7D, 1,10-Phenanthroline, fluorescent metal salt complexes
366-18-7D, 2,2'-Bipyridine, fluorescent metal salt complexes 7440-04-2D, Osmium, salts, complexes with bipyridines or phenanthrolines 7440-15-5D, Rhenium, salts, complexes with bipyridines or phenanthrolines
7440-18-8D, Ruthenium, salts, complexes with bipyridines or phenanthrolines 22873-66-1D, Tris(1,10-phenanthroline)ruthenium(II), salts 23570-43-6
RL: ANST (Analytical study)
(as oxygen-sensitive fluorescent material, in gap in optical fiber of optical probe for oxygen detection)
IT 25322-68-3 9004-54-0, Dextran, uses 9004-57-3, Ethocel
RL: ANST (Analytical study)
(as support, indicator matrix on, in optical fiber probe for gas sensor)
IT **124-38-9**, **Carbon dioxide**, analysis
7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of, with optical probe having indicator in gap in optical fiber)
IT 143-74-8
RL: ANST (Analytical study)
(immobilized on controlled pore glass, for pH fiber optic sensor)
IT 144-55-8, Sodium bicarbonate, uses
RL: USES (Uses)
(in **carbon dioxide** optical fiber sensor)
IT 9003-39-8, Polyvinyl pyrrolidone 9004-34-6, Cellulose, uses 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl cellulose 79484-92-7, Methocel
RL: ANST (Analytical study)
(in pH optical fiber sensor)
IT 9005-49-6D, Heparin, benzalkonium chloride complexes
RL: ANST (Analytical study)

(in prepn. of antithrombogenic coating on fiber optic sensor probe)
IT 10034-81-8, Magnesium perchlorate
RL: ANST (Analytical study)
(in prepn. of membrane for pH optical fiber sensor)
IT 156498-49-6
RL: ANST (Analytical study)
(membrane of, in **carbon dioxide** or oxygen optical fiber sensor)
IT 9004-35-7D, Cellulose acetate, esters 24937-78-8, Ethylene vinyl acetate copolymer
RL: ANST (Analytical study)
(membrane of, in pH optical fiber sensor)
IT 9004-34-6D, Cellulose, esters 7782-42-5, Graphite, uses 13463-67-7, Titanium dioxide, uses
RL: ANST (Analytical study)
(opaque overcoating contg., on optical fiber sensor)
IT 9016-00-6, Dimethylsiloxanes
RL: ANST (Analytical study)
(support with immobilized indicator coated with, in optical probe for oxygen detection)

L45 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1992:75239** HCAPLUS
DN **116:75239**
TI Device with a gas-permeable membrane for identifying at least one gaseous component in a gaseous or liquid sample, and identification method
IN Simon, Wilhelm; Ozawa, Satoshi
PA Hitachi, Ltd., Japan
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM **G01N021-64**
ICS **G01N021-78; G01N033-00**
CC 79-2 (Inorganic Analytical Chemistry)
FAN.CNT 1

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	EP 451719	A1	19911016		EP 1991-105394	19910405	<--
	EP 451719	B1	19961227				
	R: CH, DE, GB, LI, NL						
	US 5494640	A	19960227		US 1994-297009	19940829	<--
PRAI	CH 1990-1285		19900412	<--			
	US 1991-684281		19910412	<--			
	US 1993-5201		19930115	<--			

AB This device identifies gaseous components in gaseous or liq. samples and exhibits a sensor having sensitivity for the component to be identified, for example a corresponding optical sensor, and furthermore a gas-permeable membrane preventing direct contact of the sensor with the liq. or gaseous sample, but permitting the component, to be identified, to pass through. In this device, the gas-permeable membrane is located directly on the sensor and is mech. supported by it. In this way, the device exhibits a high sensitivity and a short response time.
ST gas permeable membrane sensor
IT Hydrogen halides
Thiols, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, gas-permeable-membrane sensor for)
IT Gas analysis
(device for, gas-permeable-membrane)
IT Quaternary ammonium compounds, uses
RL: USES (Uses)
(lipophilic, membrane sensor contg., gas-permeable)

IT Amines, analysis
Carboxylic acids, analysis
RL: ANST (Analytical study)
(lower, detn. of, gas-permeable-membrane sensor for)
IT Ion exchangers
Polyesters, uses
Siloxanes and Silicones, uses
RL: USES (Uses)
(membrane sensor contg., gas-permeable)
IT Carboxylic acids, esters
RL: ANST (Analytical study)
(di-, esters, membrane sensor contg., gas-permeable)
IT Carboxylic acids, esters
RL: ANST (Analytical study)
(tetra-, esters, membrane sensor contg., gas-permeable)
IT 74-90-8, Hydrogen cyanide, analysis 75-44-5, Phosgene **124-38-9**
, **Carbon dioxide**, analysis 7446-09-5, Sulfur
dioxide, analysis 7664-41-7, Ammonia, analysis 7783-06-4, Hydrogen
sulfide, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, gas-permeable-membrane sensor for)
IT 93-35-6, 7-Hydroxycoumarin 93-35-6D, Umbelliferone, derivs. 111-20-6D,
Decanedioic acid, esters 122-62-3, Bis(2-ethylhexyl)sebacate
124-04-9D, Hexanedioic acid, esters 2001-95-8, Valinomycin 4358-26-3
6833-84-7, Nonactin 7173-54-8, Methyltridodecylammonium chloride
7182-54-9, Monactin 7664-38-2D, Phosphoric acid, esters 9002-84-0,
Polytetrafluoroethylene 9002-86-2, Poly(vinyl chloride) 9002-88-4,
Polyethylene 9003-07-0, Polypropylene 14680-77-4, Potassium
tetrakis(p-chlorophenylborate) 26038-83-5, 4-Heptadecyl-7-
hydroxycoumarin 57843-15-9D, esters 100891-25-6D, esters, ethers with
carboxylic acid 138487-94-2D, esters
RL: ANST (Analytical study)
(membrane sensor contg., gas-permeable)

L45 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:404734 HCAPLUS
DN 113:4734
TI Membrane bilayers for stable immobilization of biocatalyst
IN Furuya, Chaichi
PA Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C12M001-40**
ICS C02F003-00; C08J009-36; **G01N027-30**
CC 16-8 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01265881	A2	19891023	JP 1988-22402	19880202 <--

AB A bilayer membrane comprising a hydrophobic porous membrane with pore sizes <0.2 .mu. and a hydrophilic membrane (reaction layer) having immobilized **microorganisms** or enzymes is disclosed. The membrane provides stable anchoring of the biol. catalysts during continuous fermn. in various types of fermentors or other bioreactors, esp. in a process producing gas. A bilayer membrane comprising a hydrophobic membrane (pore sizes, <0.04 .mu.) composed of a mixt. of acetylene black and polytetrafluoroethylene and a hydrophilic membrane composed of a mixt. of SiO2 and polytetrachloroethylene was prepd. and used for immobilizing urease. By contacting the aq. soln. (e.g. blood; for blood purifn.) contg. reactants (e.g. urea) with the hydrophilic side

and by decompressing the hydrophobic side, the gas products (**CO2** and NH3) were directed to the hydrophobic side.
ST membrane bilayer enzyme **microorganism** immobilization; urease immobilization blood purifn
IT Carbon black, biological studies
RL: BIOL (Biological study)
(bilayer membrane comprising, stability of immobilized biocatalyst in relation to)
IT Immobilization, biochemical
(hydrophobic and hydrophilic bilayer membrane for, biocatalyst stability in)
IT **Microorganism**
(immobilization of, on hydrophilic membrane-comprising bilayer membrane, biocatalyst stability in relation to)
IT Blood
(purifn. of, urease immobilization on membrane bilayer for)
IT Membrane, biological
(bilayer, hydrophobic and hydrophilic, biocatalyst immobilization on)
IT Biosensors
(enzymic, membrane immobilization comprising enzyme as, bilayer)
IT Enzymes
RL: BIOL (Biological study)
(immobilized, on hydrophilic membrane-comprising bilayer membrane, biocatalyst stability in relation to)
IT 7631-86-9, Silica, biological studies 9002-84-0
RL: BIOL (Biological study)
(bilayer membrane comprising, stability of immobilized biocatalyst in relation to)
IT 9001-37-0, Glucose oxidase 9002-13-5, Urease
RL: PROC (Process)
(immobilization of, on hydrophilic membrane-comprising bilayer membrane, biocatalyst stability in relation to)

L45 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1989:411929** HCAPLUS
DN **111:11929**
TI Indicator mixture for determining **carbon dioxide** in air
IN Osnowski, Czeslaw
PA Przedsiebiorstwo Przemyslowo-Handlowe "Polskie Odczynniki Chemiczne", Pol.
SO Pol., 4 pp. Abstracted and indexed from the unexamined application.
CODEN: POXXA7
DT Patent
LA Polish
IC ICM **G01N031-22**
CC **59-1** (Air Pollution and Industrial Hygiene)
Section cross-reference(s): **79**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI PL 143784	B1	19880331	PL 1985-253958	19850612

AB The indicator mixt. consists of a carrier (esp. silica gel) 60-90, monoethanolamine (I) 5-35, a triphenylmethyl dye (esp. fuchsine base (II) 0.2-1, and triethanolamine (III) 4.8-15 wt.%. The indicator shows a color change in the presence of **CO2** in air. Thus, a soln. of II 5 g in III 150 g, MeOH 500 mL, and water 500 mL was added to silica gel (particle size 0.05-0.25 mm, neutralized with hot 10% NaOH and dried at 130.degree.) 1 kg, the mixt. was homogenized and dried at <60.degree., and I 125 g was added. A length of a colored zone in indicator tubes was 4, 9, 16, 21, 26, and 32 mm after passing air contaminated with 1, 3, 6, 9, 12, and 15 g **CO2**/m3, resp.
ST indicator **carbon dioxide** detn air
IT Air pollution

(by **carbon dioxide**, indicator for)
IT Air analysis
(**carbon dioxide** detn. in, indicator for)
IT Silica gel, uses and miscellaneous
RL: OCCU (Occurrence)
(indicator contg., for **carbon dioxide** detn. in air)
IT **Indicators**
(**colorimetric**, for **carbon dioxide** detn. in air)
IT **124-38-9**, **Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(in air, indicator for detn. of)
IT 3248-93-9 75-04-7, Monoethylamine, uses and miscellaneous 102-71-6, Triethanolamine, uses and miscellaneous
RL: OCCU (Occurrence)
(indicator contg., for **carbon dioxide** detn. in air)

L45 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN **1988:466084** HCAPLUS
DN **109:66084**
TI **Carbon dioxide** indicator device
IN Fehder, Carl G.
PA USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM **G01N033-52**
NCL 422056000
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 9
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4728499	A	19880301	US 1986-896360	19860813 <--
	IN 172273	A	19930529	IN 1987-DE674	19870731 <--
	FI 8703469	A	19880214	FI 1987-3469	19870810 <--
	WO 8801384	A1	19880225	WO 1987-GB564	19870811 <--
	W: BG, HU, RO, SU				
	HU 49718	A2	19891030	HU 1987-4197	19870811 <--
	IL 83502	A1	19910916	IL 1987-83502	19870811 <--
	DK 8704210	A	19880214	DK 1987-4210	19870812 <--
	NO 8703390	A	19880215	NO 1987-3390	19870812 <--
	AU 8776814	A1	19880218	AU 1987-76814	19870812 <--
	CN 87105619	A	19880224	CN 1987-105619	19870812 <--
	CN 1015665	B	19920226		
	EP 257916	A1	19880302	EP 1987-307121	19870812 <--
	EP 257916	B1	19950111		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 63075541	A2	19880405	JP 1987-202609	19870812 <--
	ZA 8705948	A	19880427	ZA 1987-5948	19870812 <--
	CA 1322945	A1	19931012	CA 1987-544371	19870812 <--
	ES 2066761	T3	19950316	ES 1987-307121	19870812 <--
	US 4994117	A	19910219	US 1988-175881	19880331 <--
	AU 8944621	A1	19900308	AU 1989-44621	19891113 <--
	AU 634986	B2	19930311		
	US 5179002	A	19930112	US 1991-696281	19910425 <--
	US 5166075	A	19921124	US 1992-873971	19920424 <--
PRAI	US 1986-896360		19860813 <--		
	WO 1987-GB564		19870811 <--		
	US 1987-136600		19871222 <--		
	US 1988-241298		19880907 <--		

AB A combination rapid response device for detection of **CO2** in a

gas mixt. comprises an enclosure defined by walls and having a transparent window in 1 of the walls, an inlet, an outlet and atm. sealing means, the enclosure having mounted therein an indicator component positioned and arranged so as to be reviewed through the transparent window, the component comprising a carrier having fixedly attached thereto an indicating element formed from (1) an aq. soln. of a colorless compd. which provides an alk. soln.; (2) a hygroscopic high-boiling transparent colorless H2O-miscible liq.; and (3) a chromogenic pH-sensitive indicator which changes color relative to a change in pH of the soln. and which has a pK which is lower by 1.0-1.5 pH units than the pH of the soln., wherein the nature and concn. of the colorless compd. in (1) is correlated to the nature and concn. of the indicator (3) so that no color change occurs for at least 15 min when the indicating element is exposed to an atm. having a concn. of 0.03% **CO2**, but a color change is produced within 5 to 20 s when the indicating element is exposed to an atm. contg. .gtoreq.2% **CO2**, the sealing means enclosing the device and being constructed so as to be opened immediately prior to use of the device. Application to correct placement of endotracheal catheters is indicated. A 0.003M aq. soln. of Ca(OH2) was prepd. with pH 11.6-11.7. Metacresol purple Na salt was added so the indicator concn. was 0.12%. The resulting soln. was applied to filter paper which was then dried. The impregnated paper was cut into strips and immediately used in the device or stored, being protected from prolonged exposure to the atm. in a sealed container under a N atm. or over soda-lime granules. When the strip was incorporated in this device, the device was packaged in a gas-impermeable metallic foil. The impregnated strip stayed purple for > 2 h in an atm. contg. 0.03% **CO2**. Upon exposure to an atm. contg. 5% **CO2**, the strip turned bright yellow within 3 to 5 s. In 2% **CO2**, the yellow color was achieved in 7 to 10 s.

ST **carbon dioxide** color indicator device; calcium hydroxide **carbon dioxide** indicator device; metacresol purple **carbon dioxide** indicator device; endotracheal catheter placement indicator

IT Gas analysis
(**carbon dioxide** detn. in, color indicator device for)

IT Acrylic polymers, uses and miscellaneous
RL: USES (Uses)
(detection of **carbon dioxide** by using color indicator device with transparent enclosure of)

IT **Indicators**
(**colorimetric**, devices contg., for detection of **carbon dioxide**)

IT **124-38-9, Carbon dioxide**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of, color indicator device for)

IT 125-31-5, Xylenol blue 127-08-2, Potassium acetate 141-43-5, Monoethanolamine, uses and miscellaneous 143-74-8, Phenol red 144-02-5 497-19-8, Sodium carbonate, uses and miscellaneous 523-44-4, Orange I 553-24-2, Neutral red 584-08-7, Potassium carbonate 596-01-0, .alpha.-Naphtholphthalein 633-00-1, Rosolic acid 1305-62-0, Calcium hydroxide, uses and miscellaneous 1309-42-8, Magnesium hydroxide 1310-58-3, Potassium hydroxide, uses and miscellaneous 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide, uses and miscellaneous 1733-12-6, Cresol red 7558-79-4, Dibasic sodium phosphate 7601-54-9, Tribasic sodium phosphate 86271-80-9 56-81-5, Glycerol, uses and miscellaneous 57-55-6, Propylene glycol, uses and miscellaneous 76-59-5, Bromthymol blue 76-61-9, Thymol blue 77-09-8, Phenolphthalein 110-89-4, Piperidine, uses and miscellaneous 111-42-2, Diethanolamine, uses and miscellaneous
RL: ANST (Analytical study)
(in detection of **carbon dioxide**, color indicator device with)

L45 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:412523 HCAPLUS
DN 95:12523
TI Apparatus for BOD determination
PA Zaidan Hojin Kagakuhin Kensa Kyokai, Japan
SO Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC **G01N033-18; C12M001-04**
CC 61-2 (Water)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56005341	B4	19810204	JP 1976-16212	19760217 <--

AB BOD of a water sample is detd. by an app. consisting of a culture bottle contg. a **CO2** adsorbent, a pressure sensor, an electrolytic O generator, and a capillary pipe from the O generator to the culture bottle. The pressure sensor controls O generation. Thus, a water sample 300 mL, benzene [71-43-2] (BOD substance) 30 mg, an activated sludge 30 ppm, and nutrient mixt. 6 mL were cultured in the bottle for 2 wk. The O demand was detd. by the total prodn. of O. The residual benzene was undetected by gas chromatog.
ST BOD detn app water
IT Biochemical oxygen demand
(detn. of, of water, app. for)
IT 7732-18-5, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(BOD detn. in, app. for)
IT 71-43-2, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in water)

=> fil wpix
FILE 'WPIX' ENTERED AT 09:20:43 ON 09 OCT 2002
COPYRIGHT (C) 2002 THOMSON DERWENT

FILE LAST UPDATED: 07 OCT 2002 <20021007/UP>
MOST RECENT DERWENT UPDATE 200264 <200264/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> SLART (Simultaneous Left and Right Truncation) is now
available in the /ABEX field. An additional search field
/BIX is also provided which comprises both /BI and /ABEX <<<

>>> The BATCH option for structure searches has been
enabled in WPINDEX/WPIDS and WPIX <<<

>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,
SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<<

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
GUIDES, PLEASE VISIT:
http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d all abeq tech abex tot

L91 ANSWER 1 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 2002-421186 [45] WPIX
DNN N2002-331308
TI Detecting fungi in test material, by adding test sample to absorbant holding liquid medium for fungi provided within transparent container and detecting color reaction in indicator in transparent bag within container.
DC S03
PA (OGAW-I) OGAWA H
CYC 1
PI JP 2002085090 A 20020326 (200245)* 5p C12Q001-04 <--
ADT JP 2002085090 A JP 2000-278941 20000913
PRAI JP 2000-278941 20000913
IC ICM **C12Q001-04**
ICS **C12M001-34**; G01N033-84
AB JP2002085090 A UPAB: 20020717
NOVELTY - A sponge-like absorbant (2) that absorbs liquid medium for fungi and a sealed transparent bag (3) containing a coloring indicator for **CO2**, are provided within a transparent container (1) which is permeable to **CO2** and which can be sealed. The test sample is added to the absorbent material and the presence of fungi in the sample is checked by the color reaction in the indicator.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a test device for detecting fungi.
USE - For detecting fungi (claimed).
ADVANTAGE - Contamination by floating spore is prevented. High humidity suitable for proliferation of fungi and acceleration of spore formation is provided. Fungi can be detected in short time period.
DESCRIPTION OF DRAWING(S) - The figure shows the test device for detecting fungi.
Container 1
Sponge-like absorbant 2
Transparent bag 3
Dwg.1/3
FS EPI
FA AB; GI
MC EPI: S03-E14H

L91 ANSWER 2 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 2001-499706 [55] WPIX
DNC C2001-150523
TI Culture medium for detecting specific **microorganism**, comprises promoter for accelerating proliferation of specific **microorganism** and inhibitor for suppressing proliferation of other **microorganisms**.
DC B04 D16
PA (OGAW-I) OGAWA H
CYC 1
PI JP 2001178496 A 20010703 (200155)* 14p C12Q001-04 <--
ADT JP 2001178496 A JP 1999-368260 19991224
PRAI JP 1999-368260 19991224
IC ICM **C12Q001-04**
ICS **C12M001-34**; **C12Q001-10**; **C12Q001-14**
ICI **C12R001:63**; **C12R001:445**; **C12R001:42**; **C12R001:19**; **C12Q001-04**; **C12Q001-04**; **C12Q001-04**; **C12Q001-04**
AB JP2001178496 A UPAB: 20010927
NOVELTY - A culture medium (7) for detecting desired **microorganism**, comprising predetermined amount of promoter for accelerating proliferation of specific **microorganism** and inhibitor for suppressing proliferation of other **microorganisms**, is new. The **microorganism** on proliferation liberates predetermined quantity of

carbon dioxide.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a **microorganism** detecting device (1) comprising container (3) sealed with cap (2), separated by transparent **carbon dioxide** permeable film, the film interrupts the permeation of culture medium, the container has culture medium accommodating unit (CMAU) (5) and an indicator accommodating unit (IAU) (6), the container is transparent such that the IAU can be viewed from outside, an indicator (8) which changes color on receiving **carbon dioxide**, is accommodated in the IAU; and

(2) detecting **microorganisms** number, comprising adding a test sample to the culture medium and sealing the container, the reaction of specific **microorganisms** in predetermined concentration of sample is measured visually by the color change in indicator due to **carbon dioxide** release, from the time of sealing.

USE - For detecting desired **microorganism**.

ADVANTAGE - Desired **microorganism** in the mixed culture can be detected easily even by person without expert knowledge on microbe detection. The time required for proliferation of specific **microorganism** by release of predetermined amount of **carbon dioxide** is reduced by promoter.

DESCRIPTION OF DRAWING(S) - The drawing shows an outline of a micro detecting test device (A) before, and (B) after microbe detection. (Drawing contains non-English language text).

Microbes detecting device 1
Cap 2
Container 3
Bag of **carbon dioxide** permeable film 4
Culture medium accommodation unit 5
Indicator accommodation unit 6
Culture medium 7
Indicator 8.
Dwg.1/7

FS CPI
FA AB; GI; DCN
MC CPI: B05-A01B; B06-C; B06-D07; B06-D16; B10-A07; B10-A22; B10-B01A; B10-B02J; B12-K04E; **D05-H01**; D05-H04
TECH UPTX: 20010927

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Medium: A medium containing nutrient for Staphylococcus aureus as promoter and pyruvic acid, and inhibitor such as sodium chloride, glycine, mannitol, colistin and nalidixic acid, is used for accelerating proliferation of Staphylococcus aureus and suppressing proliferation of Staphylococcus epidermidis, Escherichia coli O-157, Salmonella typhimurium, Salmonella enteritidis, Streptococcus, Enaterococcus and Vibrio parahaemolyticus. A medium containing nutrient for Vibrio parahaemolyticus as promoter and inhibitor such as sodium chloride, phenol red and gram positive microbe inhibitor, is used for accelerating proliferation of Vibrio parahaemolyticus and suppressing proliferation of Staphylococcus epidermidis, Escherichia coli O-157, Salmonella, Staphylococcus aureus and Vibrio alginolyticus. A medium containing nutrient for O-157 microbe as promoter and inhibitor such as bile salt, sodium chloride, crystal violet, neutral red, and CT supplement is used for accelerating proliferation of O-157 microbe and suppressing proliferation of Staphylococcus epidermidis, Escherichia coli, Salmonella, Staphylococcus aureus, Vibrio parahaemolyticus and Vibrio alginolyticus. A medium containing nutrient for Salmonella as promoter and inhibitor such as sodium chloride, phenol red and brilliant green is used for accelerating proliferation of Salmonella and suppressing proliferation of Staphylococcus epidermidis, Escherichia coli O-157, Staphylococcus aureus, Vibrio parahaemolyticus and Vibrio alginolyticus. A medium containing nutrient for Escherichia coli as promoter, and inhibitor such as bile salt mixture, sodium chloride, is used for accelerating

proliferation of Escherichia coli and suppressing proliferation of Salmonella typhimurium, Salmonella, Staphylococcus aureus and Vibrio parahaemolyticus.

TECHNOLOGY FOCUS - MECHANICAL ENGINEERING - Preferred device: The **carbon dioxide** permeable film composes a sealed bag (4). The sealed bag is contained in the container. The portion surrounding the sealed bag forms CMAU. IAU is contained within the sealed bag. The medium is received in the CMAU at a level lower than the height of the indicator received in IAU.

L91 ANSWER 3 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 2000-128268 [12] WPIX
DNN N2000-096683 DNC C2000-039382
TI Sample preparation apparatus for samples to be used for inspecting a specimen isolated on a filter.
DC B04 D13 D16 J04 S03 U11 X25 X27
IN MONJI, Y; TAKAHASHI, T
PA (MIFI) NIPPON MILLIPORE KK; (SAPB) SAPPORO BREWERIES LTD; (NIMY-N) NIHON MYKROLIS KK
CYC 28
PI EP 974827 A2 20000126 (200012)* EN 25p G01N001-30
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2000078964 A 20000321 (200025) 13p C12M001-34 <--
CA 2277447 A1 20000109 (200026) EN G01N001-28
US 6312943 B1 20011106 (200170) C12M001-36
ADT EP 974827 A2 EP 1999-305438 19990707; JP 2000078964 A JP 1999-196227 19990709; CA 2277447 A1 CA 1999-2277447 19990707; US 6312943 B1 US 1999-349727 19990708
PRAI **JP 1998-194609 19980709; JP 1998-194608 19980709**
IC ICM **C12M001-34**; C12M001-36; G01N001-28; G01N001-30
ICS **C12Q001-24**; G01N001-10; **G01N021-77**
ICA **C12Q001-06**
AB EP 974827 A UPAB: 20000308
NOVELTY - The sample preparation apparatus comprises a turntable (12) on which sample bases are formed and a filter insertion unit, a reagent sprayer (14) and a filter removal unit, in order, along the edge of the turntable in the direction of rotation.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(i) a spraying apparatus for preparing a sample for enumerating specimens by spraying a reagent on a filter on which the specimens are isolated; and

(ii) a further sample preparation apparatus for preparing a sample to be used for enumerating an amount of **microorganisms** isolated on a filter.

USE - For the preparation of samples to be used for inspecting or observing a specimen isolated on a filter and sprayed with reagent, and for the production of samples to be used in order to measure the number of **microorganisms** present in water, raw materials, semi-processed goods and other products used in the food, pharmaceutical, cosmetics, electronics and other industries.

ADVANTAGE - The apparatus requires minimum human intervention in order to operate, reduces the frequency of occurrences of breakdowns and shortens the operating time.

DESCRIPTION OF DRAWING(S) - The figure shows a plan view of the sample preparation apparatus.
Turntable 12
Drying chamber 13
Sprayer 14
Dwg.4/18
FS CPI EPI

FA AB; GI; DCN
MC CPI: B04-F01; B11-C08; B12-K04; D03-K03; D03-K04; **D05-H02**; D05-H09; D05-H18; **J04-B01**
EPI: S03-E13D; S03-E14A; S03-E14B; S03-E14H9; U11-F01D3; X25-H03; X25-P01; X25-P02; X27-A02
TECH UPTX: 20000308
TECHNOLOGY FOCUS - BIOLOGY - Preferred Apparatus: A drying chamber (13) is provided at a rear side of the reagent sprayer. The reagent sprayer is supported above the sample base, so as to be movable in a vertical direction, and has a cylinder mountable above the sample base and a sprayer for spraying a reagent onto a filter disposed within a cylinder mounted on the sample base. The sample preparation apparatus further comprises a sensor for detecting the presence or absence of a filter on the sample base and a controller for automatically lowering the cylinder onto the sample base when the sensor detects the presence of a filter, spraying a reagent by using the reagent sprayer and raising the cylinder.

L91 ANSWER 4 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 2000-056722 [05] WPIX
DNN N2000-044266 DNC C2000-015406
TI Adenosine triphosphate elimination agent - useful for measuring the number of living microbes in **microorganism** culture agar medium.
DC B04 D16 J04 S03
PA (MIFI) NIPPON MILLIPORE KOGYO KK
CYC 1
PI JP 11299476 A 19991102 (200005)* 5p C12M001-34 <--
ADT JP 11299476 A JP 1998-123865 19980420
PRAI **JP 1998-123865 19980420**
IC ICM **C12M001-34**
ICS C12N001-00; **C12Q001-06**; **G01N021-77**; **G01N021-78**
AB JP 11299476 A UPAB: 20000203
NOVELTY - The adenosine triphosphate (ATP) elimination agent (I) contains an adenosine phosphoric acid deaminase.
USE - (I) is useful for measuring the number of living microbes in a **micro-organism** culture medium. Microbes are cultivated on a membrane filter, which is placed in culture medium comprising (I). The ATP originating from microbes are observed as luminescent point. Hence based upon the light emitted, a direct microbe count can be performed.
ADVANTAGE - Exact number of living microbes can be measured efficiently and rapidly using a culture medium comprising (I). The agar medium comprising (I) also reduces the luminescent point based on free ATP in medium.
Dwg.0/0
FS CPI EPI
FA AB
MC CPI: B04-L05; B11-C07B4; B12-K04A4; D05-A02C; D05-H04; D05-H05; D05-H06; D05-H08; **J04-B01**
EPI: S03-E04E

L91 ANSWER 5 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN **2000-023080** [02] WPIX
DNN **N2000-017194** DNC **C2000-005559**
TI Expert system for analysis of DNA sequencing electropherograms.
DC B04 D16 J04 T01
IN KARGER, B L; MILLER, A W
PA (UYNE-N) UNIV NORTHEASTERN
CYC 20
PI WO 9953423 A1 19991021 (200002)* EN 55p G06F017-40
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA
EP 1072006 A1 20010131 (200108) EN G06F017-40
R: DE FR GB

US 6236944 B1 20010522 (200130) G01N033-48
US 6442491 B1 20020827 (200259) G01N033-48
ADT WO 9953423 A1 WO 1999-US8231 19990414; EP 1072006 A1 EP 1999-917519 19990414, WO 1999-US8231 19990414; US 6236944 B1 Provisional US 1998-81990P 19980416, US 1999-291679 19990414; US 6442491 B1 Provisional US 1998-81990P 19980416, Cont of US 1999-291679 19990414, US 2000-711449 20001113
FDT EP 1072006 A1 Based on WO 9953423
PRAI **US 1998-81990P 19980416**; US 1999-291679 19990414; US 2000-711449 20001113
IC ICM G01N033-48; G06F017-40
ICS **C12M001-34**; C12P019-34; **C12Q001-68**; **C12Q001-70**; G01N033-50; G06F019-00
AB WO 9953423 A UPAB: 20000112
NOVELTY - A signal produced by a sequence of electrophoretically separated DNA fragments is obtained. The expert system includes a knowledge base and an inference engine to determine base-calls from the signal.
DETAILED DESCRIPTION - The expert system interprets raw or a preprocessed signal from the separation. It may be used for real-time base-calling, or may be applied offline after data acquisition is complete. The system is directly applicable to all types of electrophoretic separation used for DNA sequencing, i.e. slab gel, capillary or microchip. Each lane of a multiplexed system consists of 1 to 4 different fragment labels. The system may be used with other base-coding schemes, e.g. those in which more than one base is labeled with a given dye, but the amount of label is different for each base. When used for DNA sequencing, the resulting interpretation consists of a DNA base sequence with numerical confidences assigned to each base. The expert system detects peaks and interprets each peak as arising from noise, an artifact, a particular series of bases, a primer peak or any other features occurring in electropherograms for DNA sequencing. These interpretations result from rules for determining which hypothesis about a peak is supported by the most evidence.
USE - For analyzing DNA fragments.
ADVANTAGE - The degree of automation of data processing in high-throughput DNA sequencing is improved, as is the quality of the results. The system is easy for people to understand and extend. New rules can be added or existing rules modified.
Dwg.0/6
FS CPI EPI
FA AB; DCN
MC CPI: B04-E01; B04-E05; **B11-C07B1**; B11-C08B; B12-K04A; D05-H12; D05-H18A; **J04-B01**
EPI: T01-J16A

L91 ANSWER 6 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 1999-387708 [33] WPIX
DNC C1999-114246
TI Detecting presence of **microorganism** in sample, using color indicator e.g. in food, pharmaceutical and cosmetic industry.
DC B04 D16 J04
IN **OGAWA, H**
PA (OGAW-I) OGAWA H
CYC 27
PI EP 930368 A2 19990721 (199933)* EN 13p C12Q001-04 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 11178597 A 19990706 (199937) 8p C12Q001-04 <--
US 2001039033 A1 20011108 (200171) C12Q001-04 <--
JP 3225484 B2 20011105 (200172) 8p C12Q001-04 <--
ADT EP 930368 A2 EP 1998-310484 19981218; JP 11178597 A JP 1997-365342 19971218; US 2001039033 A1 Div ex US 1998-213872 19981217, US 2001-897105 20010703; JP 3225484 B2 JP 1997-365342 19971218

FDT JP 3225484 B2 Previous Publ. JP 11178597
PRAI **JP 1997-365342 19971218**
IC ICM **C12Q001-04**
ICS **C12M001-34; C12Q001-06**
ICA **G01N021-77; G01N021-78**
AB EP 930368 A UPAB: 19990819
NOVELTY - The method for detecting the presence of **microorganisms** (indicated by a color change) in a sample comprises:
(a) a container containing a medium and an indicator portion for detecting the presence of **microorganisms**;
(b) isolating the indicator portion from the medium portion by a **CO2** gas permeable membrane;
(c) mixing a sample in the culture medium; and
(d) sealing the container entirely from the outside atmosphere.
DETAILED DESCRIPTION - The method for detecting the presence of **microorganisms** in a sample comprises:
(a) preparing a container comprising a medium portion to have a fluid culture medium for supporting the growth of **microorganisms** and an indicator portion to have a color-turning **CO2** indicator for detecting the presence of **microorganisms**;
(b) isolating the indicator portion from the medium portion by a **CO2** gas permeable membrane;
(c) mixing a sample in the culture medium; and
(d) sealing the container entirely from the outside atmosphere;
the presence of **microorganisms** is indicated by a color change of the **CO2** indicator.
INDEPENDENT CLAIMS are also included for the following:
(1) a microbial detection indicator tool, comprising a color-turning **CO2** indicator and a **CO2** gas permeable membrane which is a transparent bag enclosing the indicator and which isolates the indicator from a fluid culture medium containing a sample;
(2) a microbial detection container tool, comprising as above in (1), and further comprising a container having a transparent portion for verifying the indicator portion from outside and having a capability of sealing entirely from the outside atmosphere; and
(3) a microbial detection/growth time measuring, system comprising:
(i) a loading portion for a microbial detection container tool which comprises a medium portion having a fluid culture medium for supporting the growth of **microorganisms**, an indicator portion having a color-turning **CO2** indicator for detecting the presence of **microorganisms**, a **CO2** gas permeable membrane isolating the indicator portion from the medium portion, and a container accommodating the indicator, all having a transparent portion for verifying the indicator portion from outside and having a capability of sealing entirely from outside atmosphere;
(ii) a sensor for detecting a color change of the **CO2** indicator in the container placed on the loading portion, and to send a **microorganism** detection signal to an alarm; and
(iii) an alarm for informing of detection of **microorganisms**, according to the **microorganisms** detection signal provided by the sensor; and/or
(iv) a timer for measuring the time, starting from the moment when the container containing a sample is placed on the loading portion until a moment when the **microorganism** detection signal is received from the sensor.
USE - The method is useful for detecting the presence of **microorganisms** in food e.g. Escherichia coli, Staphylococcus aureus, Vibrio etc. The method is useful in sterilization test and quality control industries e.g. drink bottling industry, food processing industry, dairy product industry, meat and poultry industry, pharmaceutical industry, cosmetic industry, etc. Also the method is useful for determining quantities of **microorganisms** in a test sample in general, detecting specific species of **microorganism** using

selective culture medium, research and analysis on growth process of **microorganism** under different conditions, testing antibiotic substances, microbial detection on blood sample in the medical field, and detecting coliform group or as such on a sample of ice/snow, soft drinks, powder material for drinks etc., instead of using a Durham tube for microbial detection.

ADVANTAGE - The method is simple, efficient, fast, highly sensitive and reliable at microbial detection and the microbial detection indicator tool has a simple structure. Fast microbial detection is accomplished using an indicator sensitive to an amount increase of **CO2** gas, without an indicator interfering with the growth of the **microorganisms**, without a culture medium degrading the performance of an indicator and without the color of test sample adversely effecting the process of microbial detection. Finally the tools used are cost effectively built.

DESCRIPTION OF DRAWING(S) - The diagram illustrates a microbial detection container tool.

Cap 2a

Transparent Container 3a

CO2 Gas Permeable Membrane 4a

Fluid Culture Medium Portion 5a

CO2 Indicator Portion 6a

Culture Medium 7a.

Dwg.1/5

FS CPI

FA AB; GI; DCN

MC CPI: B04-B04D5; B04-F10A3; B04-F10A9; B04-F10B3; B11-C06; **B11-C07B1**; B11-C08E1; B12-K04A4; B12-K04E; **D05-H01**; **D05-H02**; D05-H04; D05-H05; D05-H06; **J04-B01**

TECH UPTX: 19990819

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: The method further comprises a step of measuring the time, starting from a moment when the container is sealed until a moment when color of the **CO2** indicator is turned into a predetermined color. The initial quantities of **microorganisms** are obtained by comparing the measured time against contents of a table which holds pre-collected time data on each **microorganism** species of known initial quantities in known amount of sample.

ABEX

EXAMPLE - None given.

L91 ANSWER 7 OF 15 WPIX (C) 2002 THOMSON DERWENT

AN **1998-230720** [20] WPIX

DNC **C1998-072212**

TI Detection of bacteria applicable to both liquid and gaseous samples - by using fluorescence-labelled bacteriophage, is rapid, accurate and specific.

DC B04 D13 D15 D16 J04

IN NOGAMI, T

PA (JAOR) ORGANO CORP; (JAOR) ORGANO CO LTD; (NOGA-I) NOGAMI T

CYC 9

PI	WO 9813515	A1 19980402 (199820)*	JA	47p	C12Q001-02	<--
	RW: DE FR GB IT					
	W: CN KR SG US					
	JP 10323178	A 19981208 (199908)		19p	C12M001-34	<--
	EP 940472	A1 19990908 (199941)	EN		C12Q001-02	<--
	R: DE FR GB IT					
	CN 1231701	A 19991013 (200008)			C12Q001-02	<--
	KR 2000048673	A 20000725 (200116)			C12Q001-02	<--
	US 2001006783	A1 20010705 (200139)			A01N001-02	
	JP 3270722	B2 20020402 (200225)		19p	C12Q001-70	<--

ADT WO 9813515 A1 WO 1997-JP3323 19970919; JP 10323178 A JP 1997-240919 19970905; EP 940472 A1 EP 1997-940417 19970919, WO 1997-JP3323 19970919;

CN 1231701 A CN 1997-198242 19970919; KR 2000048673 A WO 1997-JP3323 19970919, KR 1999-702621 19990326; US 2001006783 A1 WO 1997-JP3323 19970919, US 1999-269104 19990319; JP 3270722 B2 JP 1997-240919 19970905

FDT EP 940472 A1 Based on WO 9813515; KR 2000048673 A Based on WO 9813515; JP 3270722 B2 Previous Publ. JP 10323178

PRAI **JP 1997-240919 19970905; JP 1996-256178 19960927 ; JP 1997-88781 19970324**

IC ICM A01N001-02; **C12M001-34; C12Q001-02; C12Q001-70**
ICS C12M003-00; C12N001-20; **C12Q001-68**; G01N021-75; G01N021-76; **G01N021-78**

ICI C12N001-20, **C12R001:42**; C12N001-20, **C12R001:185**

AB WO 9813515 A UPAB: 19980520
Bacteria are detected in liquid or gaseous samples by contacting the sample with a bacteriophage which has been labelled on its nucleic acid with a fluorescence or colour label such as 4,6-diamidino-2-phenylindole hydrochloride (DAPI), and detecting the label incorporated into the bacterial cells using a colour or fluorescence detector at a suitable wavelength, the fluorescence or colour intensity of the label incorporated into the bacteria being significantly greater than the intensity in the free bacteriophage. A suitable concentration of bacteriophage added to the sample containing the bacteria is 105-1014 phage/ml. Also claimed is an apparatus for carrying out the detection, comprising (2) reactor, (3) detector, (4) a bacterial sample, (5) a phage solution and (41, 51) pumps.
USE - The method is used for detection of e.g. specific bacterial species in environmental waters and air, foodstuffs, sewage, hospitals, precision instrument factories and food preparation areas.
ADVANTAGE - The method is simple, rapid, specific and sensitive.
Dwg.1/5

FS CPI

FA AB; GI; DCN

MC CPI: B04-F10; B04-F11; B06-D01; **B11-C07B1**; B11-C07B3; B12-K04; D03-K03; D03-K04; D04-A01H; D05-H04; **J04-B01**

L91 ANSWER 8 OF 15 WPIX (C) 2002 THOMSON DERWENT

AN 1997-079503 [08] WPIX

DNN N1997-065956 DNC C1997-025617

TI Counting of faintly luminescent particles - such as stained cells or **microorganism** cultures, does not require large magnification allowing larger area to be examined at 1 time.

DC B04 D16 J04 S03

IN BISCONTE, DE SAINT JULIEN J; BISCONTE, DE SAINT J J C

PA (BIOC-N) BIOCOM SA

CYC 20

PI EP 753732 A2 19970115 (199708)* FR 8p G01N015-00 <--
R: AT BE CH DE DK ES FI GB GR IE IT LI LU MC NL PT SE
FR 2735255 A1 19961213 (199708) G06F019-00 <--
JP 09145623 A 19970606 (199733) 6p G01N021-77 <--
EP 753732 A3 19970820 (199745) G01N015-00 <--
US 5828716 A 19981027 (199850)# G06M011-02 <--

ADT EP 753732 A2 EP 1996-401234 19960607; FR 2735255 A1 FR 1995-6923 19950612; JP 09145623 A JP 1996-171612 19960612; EP 753732 A3 EP 1996-401234 19960607; US 5828716 A US 1996-662312 19960612

PRAI **FR 1995-6923 19950612; US 1996-662312 19960612**

REP EP 447034; EP 529084; EP 647858

IC ICM G01N015-00; **G01N021-77**; G06F019-00; G06M011-02
ICS **C12M001-34; C12Q001-06; G01N021-78**; G01N033-48; G06T001-00; G06T007-00

ICI G06F159:00

AB EP 753732 A UPAB: 19970220
Process and appts. for counting cells or **microorganisms** marked with a coloured or fluorescent stain comprises the use of a camera which accumulates photons to obtain a low resolution image (I). Starting from

A microbiological analysis dish has two superposed frustoconically diverging walls joined by an annular rim, and a flat base parallel to the rim. There is pref. a third frustoconical wall extending from the upper edge of the upper wall. The three walls pref. respectively extend over 20%, 50% and 30% of the height of the dish. The inner diameter of the lowest wall, the width of the rim, and the inner diameter of the upper wall are pref. respectively 43%, 7%, and 69% of the outer diameter of the upper wall.

An analysis plate supporting the dishes is also claimed.

USE/ADVANTAGE - For determining sensitivity to antibiotics. The dish allows reproducible photometric analysis with the use of only a small volume of bacterial suspension and a short incubation period.

0/4

FS CPI

FA AB

MC CPI: **D05-H02**; D05-H09; J04-B

ABEQ US 5180555 A UPAB: 19930923

A microbiological analysis cup to hold aqueous suspension of a **microorganism** and a test medium has a flat bottom, a circular cross-section and a wall with three annular tapered zones having different slopes with base dia. increasing from bottom to top. The bottom and middle zones are joined by an annular shoulder parallel to the flat bottom, and the middle and upper zones are connected at an angle to the upper zone which restricts the rise of liq. due to the capillary effect.

The height of the lower zone is pref. less than that of the middle zone and the difference between shoulder i.d. and o.d. is 7% of cup open top dia. The angle of inclination of the lower zone w.r.t. the bottom is pref. greater than that of the upper zone.

USE/ADVANTAGE - For rapid diagnosis by identification or detection of sensitivity to antibiotics, ensures accurate reproducible measurements and allows the use of very small vols. of suspension for short incubation periods.

0/4

ABEQ EP 329579 B UPAB: 19940103

Analysis well forming a miniature test tube having a flat bottom, a circular cross-section wall connected to said flat bottom up to an open end, said wall having starting from the flat bottom a plurality of superposed frustoconical areas each having an upper edge and a lower edge whose respective base diameters increase from the flat bottom to the open end, characterised in that said well is specifically adpated for biochemical identification of a **microorganism** by optical means and to this end is filled beforehand with a culture medium and in that the wall comprises at least three superposed areas having respective different angles of inclination of the wall, namely at least a first frustoconical lower area comprising the flat bottom and a second area, the upper edge of the first area being connected to the lower edge of the second area by an annular rim contained in a plane parallel to the flat bottom, and a third frustoconical area extends from the second area to the open end with the lower edge of the third area constituting the upper edge of the second area.

Dwg.0/3

L91 ANSWER 15 OF 15 WPIX (C) 2002 THOMSON DERWENT

AN 1989-189414 [26] WPIX

CR 1994-251673 [31]

DNN N1989-144629 DNC C1989-083884

TI Measurement of number of living bacteria and identification of type - involves measurement of fluorescence before and after culturing in selective media.

DC B04 D16 J04

PA (HISB) HITACHI DENSHI ENG KK; (RIKA) RIKAGAKU KENKYUSHO

CYC 1

PI JP 01128781 A 19890522 (198926)* 10p <--

JP 06030627 B2 19940427 (199415) 9p C12Q001-06 <--
JP 2588113 B2 19970305 (199714) 10p C12M001-34 <--
ADT JP 01128781 A JP 1987-288686 19871116; JP 06030627 B2 JP 1987-288686 19871116; JP 2588113 B2 Div ex JP 1987-288686 19871116, JP 1993-140215 19871116
FDT JP 06030627 B2 Based on JP 01128781; JP 2588113 B2 Previous Publ. JP 06181743
PRAI **JP 1987-288686 19871116; JP 1993-140215 19871116**
IC **C12M001-34**; **C12Q001-00**; G01N015-14; G01N021-64; G01N033-48
ICM **C12M001-34**
ICS C12N001-38; **C12Q001-00**; G01N015-14; G01N021-64; **G01N021-78**; G01N033-48
ICA C12N001-14; C12N001-20; **C12Q001-06**; **C12Q001-10**; **C12Q001-14**
AB JP 01128781 A UPAB: 19940928
In the measurement of the number of living bacteria and identification of the type of bacteria: **microorganisms** in liq. selective medium are irradiated with excitation light, and the intensity of the fluorescence emitted from the **microorganisms** is measured; then, the **microorganisms** are cultured. The multiplied **microorganisms** are irradiated with excitation light, and the intensity of the fluorescence emitted from the **microorganisms** is measured; and the number of **microorganisms** is measured and its type is identified by obtg. the difference in fluorescence intensity before and after the culture.

The system comprises: an automatic dilution and agitation device to dilute a sample including **microorganisms** to be tested into two or more steps using liq. selective medium and agitate them; an automatic fluorescence measuring device to measure the intensity of fluorescence emitted from the diluted sample; an external memory device in which the data base relating to the relation between measured intensity of fluorescence and number of **microorganisms** for known type of **microorganism** is stored; and a processor to retrieve the data base according to the values measured by the automatic fluorescence measuring device and to control the devices.

USE/ADVANTAGE - This method is used to measure the number of **microorganisms** and identify the type not only in the clinical tests, but also in the fields of food, cosmetics, medicine, etc. Measurement and identification of **microorganisms** can be made quickly and correctly.

0/5
Dwg.0/5
FS CPI
FA AB
MC CPI: B04-B02B1; **B11-C07B1**; B12-K04A4; D05-H04; **J04-B01**

=> d his

(FILE 'HOME' ENTERED AT 07:44:58 ON 09 OCT 2002)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 07:45:08 ON 09 OCT 2002
L1 1 S CARBON DIOXIDE/CN

FILE 'HCAPLUS' ENTERED AT 07:46:35 ON 09 OCT 2002
L2 143317 S L1
L3 423050 S CARBON()(DIOXIDE OR OXIDE OR DI OXIDE) OR CO2 OR CARBONIC ACI
L4 428132 S L2,L3
E OGAWA H/AU
L5 819 S E3-E8,E110,E112
E JP97-365342/AP,PRN

```
L6            1 S E3,E4
                E US98-213872/AP,PRN
L7            1 S E4
L8            1 S L5 AND L6,L7
L9            1 S L4 AND L8
L10          38 S L5 AND L4
L11           3 S L10 AND (9 OR 10)/SC,SX
L12           3 S L9,L11
                E COLOR/CT
                E E167+ALL
L13         646 S E4,E3+NT
                E EOLORIMETER/CT
                E COLORIMETER/CT
                E E4+ALL
L14         524 S E7,E6+NT
                E E14+ALL
L15        3079 S E6,E5+NT
L16          55 S L4 AND L13-L15
                E RESPIRATION/CT
                E E14+ALL
L17        8512 S E4,E3+NT
                E E4+ALL
L18           3 S L17 AND L13-L15
                E MICROORGANISM/CT
                E E3+ALL
L19       36568 S E3,E4,E2+NT
L20        9400 S L4,L17 AND (L19 OR MICROORGANISM OR MICRO ORGANISM)
L21       18761 S L4,L17 AND (BACTER? OR VIRUS? OR FUNGUS OR FUNGI OR PROTOZO?
L22           5 S L20,L21 AND L13-L15
L23          57 S L12,L16,L18,L22
L24          28 S L23 NOT (9 OR 10)/SC,SX
L25          22 S L24 AND (60 OR 61 OR 79 OR 17 OR 7 OR 59)/SC,SX
                SEL DN AN 2 8 11 12 16
L26           5 S L25 AND E1-E15
L27          29 S L23 NOT L24
L28          18 S L27 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
                SEL DN AN 3 6 7 9 12
L29           5 S L28 AND E16-E30
L30          12 S L12,L26,L29 AND L2-L29
L31        3416 S G01N/IC,ICM,ICS AND L4
L32         241 S C12M/IC,ICM,ICS AND L4
L33          19 S L31 AND L32
L34          17 S L33 NOT L23-L30
L35          12 S L34 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
                SEL DN AN 3 7 8 9 10 11
L36           6 S L35 NOT E31-E48
L37          18 S L30,L36
L38          19 S L32 AND C12M001-34/IC,ICM,ICS
L39          29 S L31 AND G01N021-78/IC,ICM,ICS
L40          46 S L31 AND G01N021-77/IC,ICM,ICS
L41          90 S L38-L40
L42          70 S L41 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L43          62 S L42 NOT L23-L30,L33-L37
                SEL DN AN 4 7 12 40
L44           4 S L43 AND E49-E60
L45          22 S L37,L44 AND L2-L44

     FILE 'REGISTRY' ENTERED AT 08:36:17 ON 09 OCT 2002

     FILE 'HCAPLUS' ENTERED AT 08:36:22 ON 09 OCT 2002

     FILE 'HCAPLUS' ENTERED AT 08:36:41 ON 09 OCT 2002
                E OGAWA H/AU
```

```
     FILE 'WPIX' ENTERED AT 08:36:57 ON 09 OCT 2002
                 E OGAWA H/AU
L46            735 S E3,E4
L47          65259 S L3
L48          18354 S 1066/DRN OR R01066/DCN
L49          68394 S L47,L48
L50             12 S L46 AND L49
L51              1 S L50 AND (C12M OR C12Q OR G01N)/IC,ICM,ICS,ICA,ICI
                 E JP2001178496/PN
L52              1 S E3
                 E JP2002085090/PN
L53              1 S E3
L54              3 S L51-L53
L55              1 S L46 AND L54
L56              3 S L54,L55
                 E C12M001-34/IC,ICM,ICS
L57           2423 S E3-E5
                 E C12M001-34/ICA,ICI
L58            109 S E3,E4
                 E C12M001:34/ICI
L59              3 S E3
L60           2504 S L57-L59
L61             83 S L60 AND C12R/IC,ICM,ICS,ICA,ICI
L62           1522 S L60 AND C12Q001/IC,ICM,ICS,ICA,ICI
L63           1532 S L61,L62
L64             59 S L63 AND G01N021-78/IC,ICM,ICS,ICA,ICI
L65             31 S L63 AND G01N021-77/IC,ICM,ICS,ICA,ICI
L66             40 S L63 AND (B11-C07B1 OR C11-C07B1)/MC
L67            107 S L64-L66
L68              4 S L49 AND L67
L69              1 S L67 AND D05-H01/MC
L70             37 S L63 AND D05-H01/MC
L71             95 S L63 AND D05-H02/MC
L72             34 S L67 AND (L71 OR J04-B01/MC)
L73             35 S L68,L69,L72
L74           1150 S L63 AND (PY<=1998 OR PRY<=1998)
L75             80 S L74 AND L67
L76             31 S L75 AND L73
L77              4 S L75 AND L49
L78             31 S L75 AND L76
L79             33 S L56,L76,L77,L78
L80             30 S L79 AND C12M001-34/IC,ICM
L81              9 S L79 AND C12Q001-04/IC,ICM
L82             30 S L80,L81
L83              3 S L79 NOT L82
L84             30 S L56,L82
L85             11 S L84 AND MICROORG?
L86              2 S L84 AND MICRO ORG?
L87             12 S L56,L85,L86
L88             18 S L84 NOT L87
                   SEL DN AN 2 3 10
L89              3 S L88 AND E1-E8
L90             15 S L87,L89
L91             15 S L90 AND L46-L90

     FILE 'WPIX' ENTERED AT 09:20:43 ON 09 OCT 2002
```

the threshold of this image, a binary image can be obtd. (Ib), from which a dimensional filter can be derived allowing the number of objects (N) having the same dimensions as Ib to be counted.

USE - The method can be used for counting e.g. cells or **microorganisms** marked with a flourescent stain.

ADVANTAGE - The objects can be counted without a great deal of magnification, allowing a larger area of culture to be examined at any one time.

Dwg.1/4

FS CPI EPI
FA AB; GI
MC CPI: B04-F01; **B11-C07B1**; B11-C07B3; B12-K04; D05-H04; D05-H09; **J04-B01**
EPI: S03-F05

L91 ANSWER 9 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 1995-119686 [16] WPIX
DNN N1995-094180 DNC C1995-055115
TI Bacterium inspection device for counting number of **microorganisms** - reducing background light using dull black colour pressure plate.
DC D16 J04 S03 S05
PA (FJIE) FUJI ELECTRIC CO LTD; (JAOR) ORGANO CORP
CYC 1
PI JP 07044707 A 19950214 (199516)* 10p G06T007-00 <--
JP 3029760 B2 20000404 (200022) 10p G06T007-00
ADT JP 07044707 A JP 1993-185716 19930728; JP 3029760 B2 JP 1993-185716 19930728
FDT JP 3029760 B2 Previous Publ. JP 07044707
PRAI **JP 1993-185716 19930728**
IC ICM G06T007-00
ICS **C12M001-34**; **C12Q001-06**; G01N015-14; **G01N021-78**; G01N033-569

AB JP 07044707 A UPAB: 19950502

Background light is reduced by making the surface of a pressing plate for pressing film with attached bacteria placed in an input portion of a high-sensitive camera to dull black colour. An image with removed noise and background light is obtained by processing both of an image with removed noises smaller than light emitting points caused by bacteria, and an image obtd. by extracting background light while eliminating light emitting points.

ADVANTAGE - Very fine and very weak light emitting points are detected from background, which varies by every measurement.

Dwg.1/10

FS CPI EPI
FA AB; GI
MC CPI: D05-H09; **J04-B01**
EPI: S03-E04E; S03-E14H; S03-F06B; S05-C09

L91 ANSWER 10 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 1994-251673 [31] WPIX
CR 1989-189414 [26]
DNN N1994-198819 DNC C1994-114349
TI Viable cell count measuring device used in food, cosmetics, etc - comprises diluting and stirring **microorganism** samples, irradiating sample with light and measuring fluorescence, storing and processing data, etc.
DC B04 D13 D16 D21 J04 S03
PA (HISB) HITACHI DENSHI ENG KK; (RIKA) RIKAGAKU KENKYUSHO
CYC 1
PI JP 06181743 A 19940705 (199431)* 10p C12M001-34 <--
ADT JP 06181743 A Div ex JP 1987-288686 19871116, JP 1993-140215 19871116
PRAI **JP 1987-288686 19871116; JP 1993-140215 19871116**
IC ICM **C12M001-34**

ICS C12N001-38; **G01N021-78**
ICA **C12Q001-06; C12Q001-10; C12Q001-14**
AB JP 06181743 A UPAB: 19940921
A measuring device comprises: an automatic diluting/stirring device to dilute and stir a sample including **micro-organisms** in a liquid selection medium in several stages of dilution; an automatic fluorescence measuring device to measure the fluorescence of 430 to 490 nm wavelength by irradiating the **micro-organism** with excitation light of 366 nm peak wavelength; an external memory device to store data on relation between measured fluorescent intensity and viable cell count of existing **micro-organism** species; and a processor to process data by retrieving and referring the data based on the basis of the measured values by the automatic fluorescence measuring device.

The liquid selection medium is pref. for Bifidobacterium Escherichia coli, Salmonella, Staphylococcus aureus or yeast.

USE/ADVANTAGE - Used to measure the viable cell count. Esp. to culture specific **micro-organisms** in a sample using liquid selection medium and to detect the fluorescence generated from the **micro-organisms**.

Dwg.3/5
FS CPI EPI
FA AB; GI
MC CPI: B11-A01; D05-H09; **J04-B01**
EPI: S03-E04D; S03-E14A; S03-E14H9; S03-F06C

L91 ANSWER 11 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN **1990-375982** [50] WPIX
CR 1989-272035 [38]; 1991-275602 [38]; 1992-398027 [48]; 1993-196242 [24]; 1996-259062 [26]; 1997-043154 [04]; 1997-404727 [38]; 1998-008901 [01]; 1999-105121 [09]
DNN **N1990-286537** DNC **C1990-163810**
TI Monitoring microbacterial growth by-products - by determn. of reflective properties of indicator exposed to by-products.
DC B04 D16 S03 S05
IN DIGUISEPPI, J L; THORPE, T C; DI GUISEPPI, J L
PA (ALKU) AKZO NV; (ALKU) AKZO NOBEL NV; (FOOD-N) FOOD EQUIP TECHNOLOGIES CO INC; (DIGU-I) DIGUISEPPI J L
CYC 25
PI

WO 9014414	A	19901129 (199050)*	32p			<--
RW: AT BE CH DE DK ES FR GB IT LU NL SE						
W: AU BR DK FI HU JP KR NO						
CA 2016872	A	19901115 (199106)				<--
AU 9057275	A	19901218 (199113)				<--
ZA 9003493	A	19910327 (199117)				<--
FI 9105383	A	19911114 (199207)				<--
EP 472622	A	19920304 (199210)		C12M001-34		<--
R: AT BE CH DE ES FR GB IT LI LU NL SE						
DK 9101858	A	19911128 (199214)				<--
NO 9104472	A	19920114 (199215)				<--
BR 9007378	A	19920428 (199231)		C12M001-34		<--
JP 04505256	W	19920917 (199244)	14p	C12M001-34		<--
HU 60765	T	19921028 (199249)		C12M001-34		<--
US 5164796	A	19921117 (199249)	14p	G01N021-55		<--
AU 638718	B	19930708 (199334)		C12M001-34		<--
CA 2016872	C	19950124 (199511)		G01N021-78		<--
EP 472622	B1	19951213 (199603)	EN 20p	C12M001-34		<--
R: AT BE CH DE ES FR GB GR IT LI NL SE						
DE 69024210	E	19960125 (199609)		C12M001-34		<--
ES 2083454	T3	19960416 (199623)		C12M001-34		<--
FI 97548	B	19960930 (199644)		C12M001-34		<--
IE 70325	B	19961113 (199702)		C12M001-34		<--
NO 301486	B1	19971103 (199751)		C12M001-34		<--

HU 215946 B 19990329 (199921) C12M001-34 <--
JP 3109740 B2 20001120 (200101) 12p C12M001-34 <--

ADT ZA 9003493 A ZA 1990-3493 19900508; EP 472622 A EP 1990-908395 19900514; BR 9007378 A BR 1990-7378 19900514, WO 1990-US2631 19900514; JP 04505256 W JP 1990-508213 19900514, WO 1990-US2631 19900514; HU 60765 T HU 1990-5125 19900514, WO 1990-US2631 19900514; US 5164796 A CIP of US 1988-168291 19880315, Cont of US 1989-351476 19890515, US 1991-649147 19910201; AU 638718 B AU 1990-57275 19900514; CA 2016872 C CA 1990-2016872 19900515; EP 472622 B1 EP 1990-908395 19900514, WO 1990-US2631 19900514; DE 69024210 E DE 1990-624210 19900514, EP 1990-908395 19900514, WO 1990-US2631 19900514; ES 2083454 T3 EP 1990-908395 19900514; FI 97548 B WO 1990-US2631 19900514, FI 1991-5383 19911114; IE 70325 B IE 1990-1660 19900507; NO 301486 B1 WO 1990-US2631 19900514, NO 1991-4472 19911114; HU 215946 B HU 1990-5125 19900514, WO 1990-US2631 19900514; JP 3109740 B2 JP 1990-508213 19900514, WO 1990-US2631 19900514

FDT BR 9007378 A Based on WO 9014414; JP 04505256 W Based on WO 9014414; HU 60765 T Based on WO 9014414; US 5164796 A CIP of US 4945060; AU 638718 B Previous Publ. AU 9057275, Based on WO 9014414; EP 472622 B1 Based on WO 9014414; DE 69024210 E Based on EP 472622, Based on WO 9014414; ES 2083454 T3 Based on EP 472622; FI 97548 B Previous Publ. FI 9105383; NO 301486 B1 Previous Publ. NO 9104472; HU 215946 B Previous Publ. HU 60765, Based on WO 9014414; JP 3109740 B2 Previous Publ. JP 04505256, Based on WO 9014414

PRAI **US 1989-351476 19890515; US 1988-168291 19880315 ; US 1991-649147 19910201**

REP 1.Jnl.Ref; EP 301699; EP 333253; JP 61149848; US 4101383; US 4456380; 01Jnl.Ref

IC ICM **C12M001-34**; G01N021-55; **G01N021-78**
ICS C12M001-00; **C12Q001-04**; G01N021-51; **G01N021-77**; G01N021-80

AB WO 9014414 A UPAB: 20001230
Indicator (2) whose reflective properties are changed by exposure to by-prods. of microbacterial growth is placed in a housing (1) in a predetermined orientation where it is exposed to such by prods., and is illuminated with radiation from a source (4), of a frequency within the spectral range of reflective characteristics of the indicator. Radiation reflected from the detector is recieved by a detector (5) whose signal is evaluated by a circuit (6).

USE/ADVANTAGE - Partic. in determining the presence of microbial contamination is a clinical specimen by monitoring pH or **CO2** changes. Measures microbial metabolic prods. in the liq. phase of the sample rather than in the atmos. above the liq. Sensor is disposable and measurements are made from outside the culture vessel (1). Opaque or coloured specimens do not affect the measurements which can be made continuously using a detector with a high indicator-molecule concn. giving a high sensitivity.

Dwg.1/7

FS CPI EPI

FA AB; DCN

MC CPI: B04-B02B; B11-C07B2; B12-K04A4; **D05-H02**; D05-H09
EPI: S03-E04E; S03-E14H; S05-C09

ABEQ US 5164796 A UPAB: 19930928
Instrument for monitoring microbial growth in a specimen comprises sealable sterilisable container (1) in which the specimen (3) is cultured, and a sterilisable indicator (2) in the container in the region of a transparent container section so that it can be observed from the exterior. An emitter (4) is positioned outside the container to interact with the indicator with the signal from the indicator received by a detector (5) and proecessed (6) to evaluate changes in or the amt. of growth.

The emitter is pref. a LED and the detector is a photodiode, the output passed to a computer or circuitry for receiving the signal at set time intervals and comparing signals to calculate the rate of change or change in characteristics. The indicator is pref. sepd. from culture

medium by a membrane, and the measurable property may be light absorbance, phosphorescence, scattering, refraction, fluorescence or reflectance.

USE/ADVANTAGE - Partic. for analysis of clinical specimens and for monitoring changes in pH and/or **CO2** content, permits continuous monitoring without breaking the seal and without interference by coloured components in the specimen.

1/7

ABEQ EP 472622 B UPAB: 19960122

An instrument for monitoring microbial growth in a specimen, comprising: a sealable, sterilizable container having an internal chamber in which the specimen is cultured in a sterile culture medium, the container having at least one transparent section; a sterilizable indicator means located in the container in the region of the transparent section, said indicator means exhibiting a measurable change in response to a pH change in its environment detectable through said transparent section upon exposure to metabolites of microbial growth, whereby changes in the indicator means can be monitored from the exterior of the container through said transparent section thereby monitoring microbial growth without entering the container after sealing; an emitter means for emitting an emitter signal that interacts with at least one measurable property of said indicator means whereby an indicator signal is produced said emitter means being positioned relative to said indicator means so that said emitter signal strikes said indicator means through the transparent section; a detector means positioned relative to said indicator means for receiving said indicator signal from said indicator means through the transparent section and for producing a detector signal corresponding thereto; processing means for receiving said detector signal and for processing said detector signal to evaluate the magnitude of the measurable property of said indicator means at any given time and compare the magnitude of said signal with the magnitude at another time and thereby monitor microbial growth in said sealable container after said container has been sealed.

Dwg.1/7

L91 ANSWER 12 OF 15 WPIX (C) 2002 THOMSON DERWENT

AN 1990-227358 [30] WPIX

DNN N1990-176393 DNC C1990-098126

TI **Microorganism** detection - using appts. composed of transparent vessel, insertion structure and lid for vessel.

DC A89 B04 D16 J04

PA (TOXN) TOYO JOZO KK

CYC 1

PI JP 02154697 A 19900614 (199030)* <--

ADT JP 02154697 A JP 1988-309257 19881207

PRAI **JP 1988-309257 19881207**

IC **C12M001-34; C12Q001-04**

AB JP 02154697 A UPAB: 19930928

Appts. is composed of (1) transparent vessel, (2) inserting structure and (3) lid for the vessel (1). The inserting structure (2) is made of a sheet which shows gas permeability and low water permeability and cannot pass the microbes in test soln. and the sheet may be supported on proper carrier. In the vessel (1), the mixt. of test soln., nutrients and gelling agent is poured properly and the inserting structure (2) is inserted and fixed in the vessel. In the space between the vessel (1) and the inserting structure (2), microbes are multiplied and one can detect the microbes from outside of the vessel (1). By using indicator which forms colour, fluorescent light or luminous light by conducting with microbe, one can detect microbe more easily. The indicator is applied inside of the inserting structure and is transformed to the layer, in which microbe is multiplied.

For preparing inserting structure, water-repelling sheet such as silicone-treated paper, polyethylene-treated paper, silicone-treated cloth, etc. can be used.

0/28
FS CPI
FA AB
MC CPI: A12-L04; A12-W11L; B04-B02B; B04-C03B; B04-C03D; B04-D02; **B11-C07B1**; B11-C07B3; B11-C07B4; B11-C08E3; B12-K04; D05-H04; D05-H05; D05-H06; **J04-B01**

L91 ANSWER 13 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 1989-272035 [38] WPIX
CR 1990-375982 [50]; 1991-275602 [38]; 1992-398027 [48]; 1993-196242 [24]; 1996-259062 [26]; 1997-043154 [04]; 1997-404727 [38]; 1998-008901 [01]; 1999-105121 [09]
DNC C1989-120407
TI Detection of **microorganisms** in clinical specimens - uses growth medium and sealed container with sensing and indicators to detect **microorganisms**.
DC A89 A96 B04 D16
IN CALANDRA, M J; DIGUISEPPI, J L; DRISCOLL, R C; THORPE, T C; TURNER, J E
PA (ALKU) AKZO NV; (ALKU) AKZO NOBEL FASER AG; (ALKU) AKZO NOBEL NV
CYC 20
PI

EP 333253	A	19890920 (198938)*	EN	11p		<--
R: AT BE CH DE ES FR GB GR IT LI NL SE						
AU 8931288	A	19890921 (198946)				<--
DK 8901238	A	19890916 (198948)				<--
JP 02016965	A	19900119 (199009)				<--
ZA 8901788	A	19900328 (199017)				<--
US 4945060	A	19900731 (199033)		9p		<--
ES 2031807	T1	19930101 (199305)			C12M001-34	<--
EP 333253	B1	19950809 (199536)	EN	14p	C12M001-34	<--
R: AT BE CH DE ES FR GB GR IT LI NL SE						
DE 68923720	E	19950914 (199542)			C12M001-34	<--
ES 2031807	T3	19951216 (199606)			C12M001-34	<--
IE 67634	B	19960417 (199628)			C12M001-34	<--
CA 1339512	C	19971028 (199804)			C12Q001-04	<--
JP 2862556	B2	19990303 (199914)		8p	C12M001-34	<--
KR 9703150	B1	19970314 (199936)			C12Q001-00	<--

ADT EP 333253 A EP 1989-200554 19890306; JP 02016965 A JP 1989-61990 19890314; ZA 8901788 A ZA 1989-178 19890808; US 4945060 A US 1988-168291 19880315; ES 2031807 T1 EP 1989-200554 19890306; EP 333253 B1 EP 1989-200554 19890306; DE 68923720 E DE 1989-623720 19890306, EP 1989-200554 19890306; ES 2031807 T3 EP 1989-200554 19890306; IE 67634 B IE 1989-746 19890307; CA 1339512 C CA 1989-593584 19890314; JP 2862556 B2 JP 1989-61990 19890314; KR 9703150 B1 KR 1989-3105 19890314
FDT ES 2031807 T1 Based on EP 333253; DE 68923720 E Based on EP 333253; ES 2031807 T3 Based on EP 333253; JP 2862556 B2 Previous Publ. JP 02016965
PRAI **US 1988-168291 19880315**
REP 1.Jnl.Ref; A3...9003; AU 472420; FR 2603684; JP 57207861; No-SR.Pub; US 2880070; 2.Jnl.Ref; US 4456380
IC ICM **C12M001-34; C12Q001-00; C12Q001-04**
ICS **C12Q001-06; C12Q001-22; G01N021-77**; G01N033-84
AB EP 333253 A UPAB: 19990603
A device for detecting **microorganisms** in a specimen comprises a sealable sterilizable vessel in which a specimen may be cultured with a sterile culture medium, a transparent section in the wall of the vessel with a sensor attached to the internal surface of the vessel in the region of the transparent section. The sensor has an indicator and changes in the indicator resulting from pH change or change in C02 concentration in the medium are detected from outside the vessel.

USE/ADVANTAGE - A device and apparatus for continuously monitoring changes in pH or C02 in a clinical specimen using a growth medium and sealed container without entering the container after the sample is prepared and the container sealed.

Dwg.0/4
FS CPI
FA AB; DCN
MC CPI: A12-L04; A12-V03; A12-W05; A12-W11L; B04-B02B; B05-C04; B11-C07B2; B11-C08; B12-K04A4; D05-H04; D05-H05; D05-H06; D05-H09
ABEQ US 4945060 A UPAB: 19930923
Device for monitoring biological activity comprises a sealed, sterilised container contg. a biological species in a nutrient medium contg. a non-fluorescent indicaor, in which one or more sensors are immersed; at least part of the container is transparent, so that changes in colour or appearance can be monitored by reflectance, turbidity, absorbence or other optical methods; and the pH of the medium, **CO2** and O2 contents, etc. can be monitored with corresp. ion specific electrodes in the medium.
USE - The process is applicable to the assessment of microbial contamination in a wide range of clinical samples, food prods, etc. @
ABEQ EP 333253 B UPAB: 19950918
A device for detecting **microorganisms** in a specimen comprising a sealable, sterilisable, specimen container, having an internal chamber in which a specimen may be cultured with a sterile culture medium to detect microbial contamination in the specimen and having at least one transparent section in the wall of said container, and a sensor means affixed to the internal surface of the wall of said container in the region of the transparent section, whereby changes in the appearance of the sensor means can be detected from the exterior of said container through said transparent section, said sensor means comprising an immobilised indicator medium, the indicator medium being selected for its ability to exhibit a detectable change when exposed to.products of an organism's metabolic activity, said indicator medium being immobilised by bonding the indicator to a support medium or encapsulating the indicator within a polymer matrix.
Dwg.0/4

L91 ANSWER 14 OF 15 WPIX (C) 2002 THOMSON DERWENT
AN 1989-243465 [34] WPIX
DNC C1989-108399
TI Microbiological analysis dish - with superposed frusto-conical walls joined by annular rim parallel to flat base.
DC D16 J04
IN MONGET, D
PA (APIS-N) API SYSTEM SA; (INMR) BIO MERIEUX; (INMR) BIOMERIEUX SA
CYC 15
PI EP 329579 A 19890823 (198934)* FR 7p <--
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
FR 2627191 A 19890818 (198940) <--
JP 01243983 A 19890928 (198945) <--
US 5180555 A 19930119 (199306) 5p G01N021-03 <--
EP 329579 B1 19931118 (199346) FR 7p B01L003-00 <--
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 68910708 E 19931223 (199401) B01L003-00 <--
ES 2047144 T3 19940216 (199411) B01L003-00 <--
JP 2878702 B2 19990405 (199919) 5p C12M001-34 <--
ADT EP 329579 A EP 1989-420054 19890215; FR 2627191 A FR 1988-2180 19880216; JP 01243983 A JP 1987-31281 19870213; US 5180555 A Cont of US 1989-313195 19890216, US 1990-602895 19901025; EP 329579 B1 EP 1989-420054 19890215; DE 68910708 E DE 1989-610708 19890215, EP 1989-420054 19890215; ES 2047144 T3 EP 1989-420054 19890215; JP 2878702 B2 JP 1989-31281 19890213
FDT DE 68910708 E Based on EP 329579; ES 2047144 T3 Based on EP 329579; JP 2878702 B2 Previous Publ. JP 01243983
PRAI **FR 1988-2180 19880216**
REP EP 50018; GB 1493353; US 3363503; US 3713780
IC ICM B01L003-00; **C12M001-34**; G01N021-03
ICS C12M001-16; **C12Q001-04**; **G01N021-77**; G01N033-56
AB EP 329579 A UPAB: 19930923